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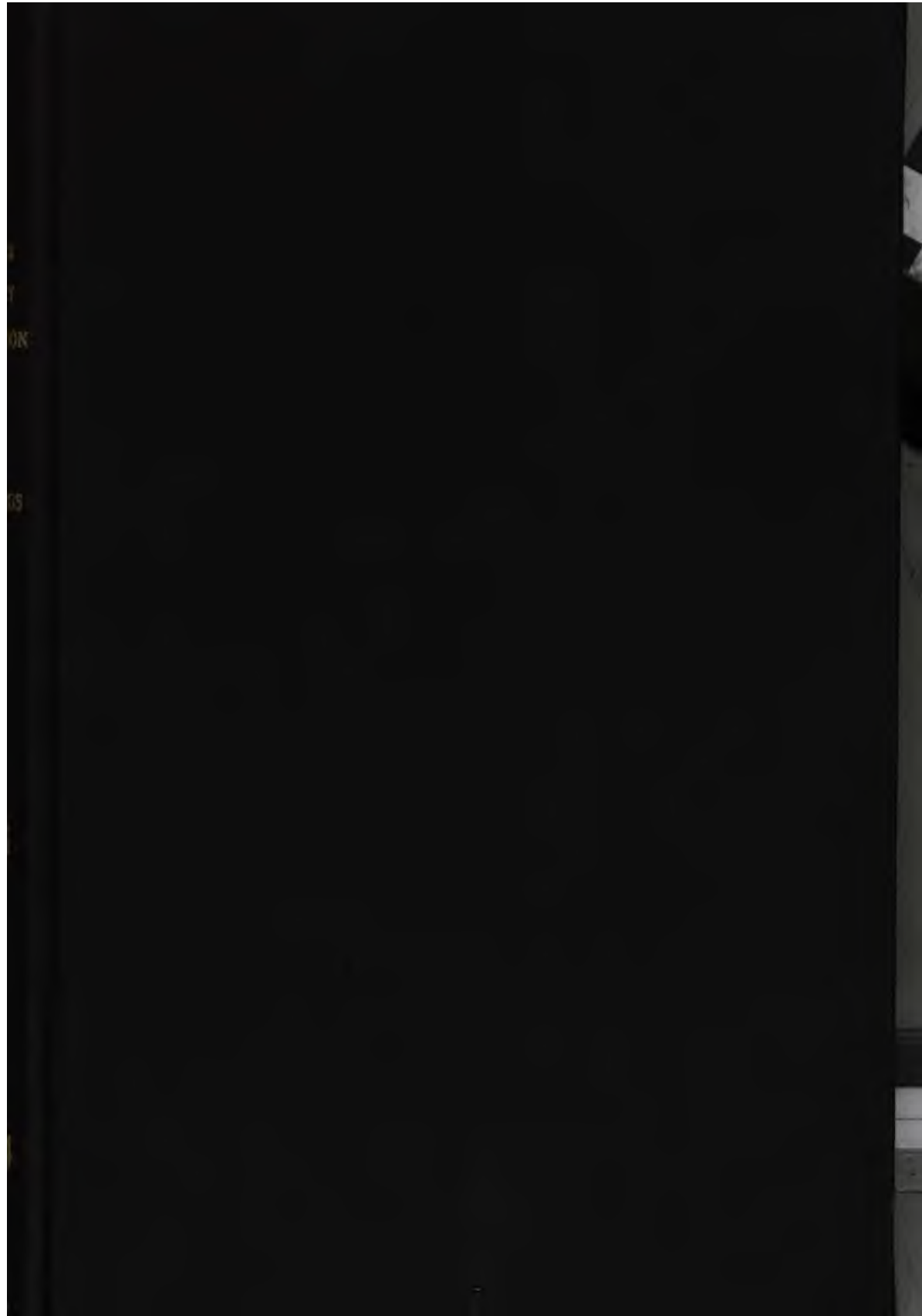
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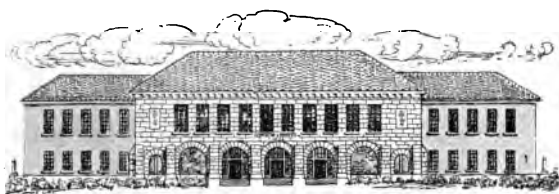
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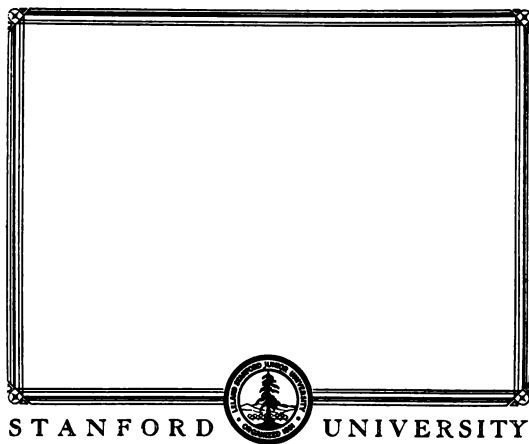
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PROCEEDINGS OF THE SECOND ANNIVERSARY
OF THE
UNIVERSITY CONVOCATION
OF THE
STATE OF NEW YORK,
Held August 1st, 2d and 3d, 1865.

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ALBANY:
CHARLES VAN BENTHUYSEN & SONS, PRINTERS.
1866.

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ERRATA.

The following errors and omissions have been observed in the Proceedings of the University Convocation:

Page 11. Insert in the 28th line, after the word "that," the words "*Sallust's Cataline and*" either Sallust's Jugurthine War, &c.

Page 15. After 9th line, insert "*Canandaigua Academy, Principal, Noah T. Clarke.*"

Page 24, foot note. For "Crutylus," read "*Cratylus.*"

Page 26. Insert in 25th line, after the word "sprung," the phrase "*is the special work,*" and omit the same in the 26th line.

Page 27. In 81st line, for "Romanic," read "*Romance;*" and in the foot note, for "Grimni's," read "*Grimm's.*"

Page 87. In 87th line, for "apoclosis," read "*apodosis.*"

I. THE UNIVERSITY CONVOCATION OF THE STATE OF NEW YORK.

MINUTES OF THE SECOND ANNIVERSARY, HELD August 1st, 2d & 3d, 1865.

THE sessions of the Second Anniversary of the University Convocation of the State of New York, were held in the Assembly Chamber of the Capitol in the city of Albany, commencing on Tuesday, August 1st, 1865, at 10 o'clock A. M., and closing on Thursday, August 3d, at 12 o'clock M.

After a brief introductory address by Chancellor PRUYN, Rev. Regent LUCKEY led the Convocation in the use of the Lord's Prayer, and pronounced the apostolic benediction.

On motion of Secretary WOOLWORTH, Principal J. DORMAN STEELE, of Newark Union Free School, was appointed Assistant Secretary.

A delegation of the New York State Teachers' Association, consisting of Dr. T. S. LAMBERT, of Peekskill; Principal M. S. CONVERSE, of Elmira; Vice-President EDWARD DANFORTH, of Troy, and Corresponding Secretary JAMES CRUIKSHANK, LL. D., of Albany, presented their credentials and were declared entitled to seats as members of the Convocation.

The Executive Committee previously appointed by the CHANCELLOR, and having in charge the arrangements of the present Convocation, consisted of President HICKOK, of Union College, (in place of Professor KENDRICK, of Rochester University, absent); Professor UPSON, of Hamilton College; Professor GILLESPIE, of Union College; Principal FLACK, of Hudson River Institute, (vice Principal MASON, of Albany Academy absent); Principal McVICAR, of Brockport Collegiate Institute; Principal WILLIAMS, of Ithaca Academy, and Secretary WOOLWORTH.

President HICKOK, in behalf of the Executive Committee, reported the following partial

ORDER OF EXERCISES.

Sessions (except the first) 9 A. M. to 1 P. M.; 3½ to 5½ P. M.; 8 P. M. Joint sessions, morning and evening; Sectional sessions, each afternoon.

TUESDAY, AUGUST 1.

10 A. M. Opening of the Convocation.

10¼ A. M. Papers on Classical Training, by Prof. BENJAMIN STANTON, of Union College; Prof. P. J. WILLIAMS, of Brockport Collegiate Institute.

12 M. The Internal Organization of Academies, by Principal M. McVICAR, of Brockport Collegiate Institute.

12½ P. M. The Requisites of Admission to Colleges, by Principal S. G. WILLIAMS, of Ithaca Academy.

1 P. M. Recess.

COLLEGE SECTION.

3½ P. M. Discussion on the requisites for admission to College, entire session.

ACADEMY SECTION.

3½ P. M. Discussion on same subject as College Section until 4½ P. M.

4½ P. M. English Grammar, by Principal C. S. HALSEY, of Macedon Academy.

5 P. M. Instruction of Teachers' Classes, by Principal M. WEED, of Middlebury Academy.

5½ P. M. Recess.

8 P. M. Female Education, by President A. W. COWLES, of Elmira Female College.

The venerable Vice-Chancellor, GULIAN C. VERPLANCK, LL. D., the senior member of the Board of Regents, took the chair by invitation of Chancellor PRUYN.

Prof. P. J. WILLIAMS, of Brockport Collegiate Institute, read a paper on the method of Teaching the Classics, illustrated by an elaborate analytical diagram, and by references to sections of Xenophon's Anabasis, copies of which had been printed and distributed among the members.

Prof. BENJAMIN STANTON, of Union College, followed with a paper on the importance of a better preparation in Greek and Latin for admission to College, (Rev. Regent LUCKEY in the chair.)

Principal McVICAR, of Brockport Collegiate Institute, read a paper on the Internal Organization of Academies.

AFTERNOON SESSION—3½ o'clock.

A paper by Principal S. G. WILLIAMS, of Ithaca Academy, on the Requisites for Admission to College, was read at the opening of the session. The leading views therein presented were recapitulated in the form of the following resolutions, which were submitted for the action of the Convocation.

1. *Resolved*, That it is desirable that the standard of requirements for admission to the colleges of our State should be definite and uniform.

2. *Resolved*, That this Convocation recommend to the colleges to adopt as such uniform requirements, the following studies or their full equivalent, viz.: in Latin, after the necessary introductory study and Latin grammar, five books of Cæsar, six books of the *Æneid*, Sallust's *Catiline*, and seven orations of Cicero, with Arnold's *Latin Prose Composition to the Passive Voice*; in Greek, the proper introductory study, Greek grammar, the prose of Jacob's *Greek Reader to Mythology*, three books of the *Anabasis*, and one book of Homer; in mathematics, arithmetic and algebra as taught in some of the higher text books on these subjects, geometry to the measurement of volume, and plane trigonometry; rhetoric; and in natural science, natural philosophy, chemistry to metals, and geology.

3. *Resolved*, That the examinations for admission to college should be held on the same day or days at not less than three places in the State, to be designated by the Board of Regents; that the examinations should be chiefly in writing from printed lists of questions, which lists should be the same in all the boards for any year; that the examiners should recognize three grades of scholarship among the candidates admitted, the first grade to embrace those who answer correctly at least eighty per cent. in value of the questions proposed, the second grade, those who answer at least sixty-five per cent. in value of the questions; that the certificate of examination should bear on its face the grade of scholarship displayed by the person holding it, and the name of the academy at which he was prepared, with the name of its principal; and that this certificate should admit its holder to any college in the State, subject, always, to such conditions with regard to moral character as the several colleges may see fit to impose.

4. *Resolved*, That where a student is unable to attend the regular examination, the faculty of any college should, in their discretion, after a special examination, admit him to the recitations of the lowest class, but not matriculate him, until he procures at the next regular examination, the requisite certificate of proficiency.

The Convocation then resolved itself into college and academy sections.

COLLEGE SECTION.

The College Section met in the Senate Chamber, Vice-Chancellor VERPLANCK in the chair, and D. J. PRATT, acting secretary of the Convocation, serving as clerk.

The subject of the requisites for admission to college was called up, on motion of President FISHER, of Hamilton College, and was discussed at length by President FISHER and Professors AVERY and UPSON, of Hamilton College; President HICKOK and Professors GILLESPIE and STANTON, of Union College; Chancellor FERRIS, of

the University of the city of New York; Professor GALLUP, of Madison University; the Vice-Chancellor, and Secretary WOOLWORTH.

The following resolutions, expressing the sense of the section upon a portion of the requisites, were adopted without dissent:

On motion of Professor GILLESPIE,

Resolved, That it is desirable that there should be uniformity in the requirements for admission to the colleges here represented.

Resolved, That the requirement in Mathematics should be algebra to equations of the second degree, and plane geometry.

On motion of Chancellor FERRIS,

Resolved, That the requirement in Greek should be three books of Xenophon's Anabasis; one book of Homer's Iliad, with Prosody.

The College Section then adjourned to meet to-morrow afternoon at three and one-half o'clock.

ACADEMY SECTION.

The Academy Section remained in the Assembly Chamber, Chancellor PRUYN presiding, and assistant secretary J. D. STEELE officiating as clerk.

On motion of Principal FLACK, of Hudson River Institute, the resolutions introduced in connection with the paper of Principal WILLIAMS, were called up for discussion. The first resolution, urging uniformity in college requirements for admission, was discussed (Rev. Regent PARKS in the chair) by Principals A. FLACK, N. W. BENEDICT, J. S. GARDNER, J. E. KING, J. WILSON, S. G. WILLIAMS and J. D. STEELE, Dr. J. B. THOMSON, Rev. Regent LUCKEY, Professor S. T. FROST and Dr. WOOLWORTH. The resolution was then adopted.

The second resolution, recommending as such requisites a specified list of studies, was discussed by Principals M. McVICAR, N. W. BENEDICT, J. S. GARDNER, C. W. BENNETT, and M. P. CAVERT, Superintendent V. M. RICE, Secretary WOOLWORTH and Chancellor PRUYN. After having engrossed the remainder of the time allotted to the discussion, as well as the hour assigned to the reading of papers by Principals HALSEY and WEED, the resolution was finally, on motion, laid upon the table.

The Academy Section then adjourned to meet to-morrow afternoon at three and one-half o'clock.

EVENING SESSION—8 o'clock.

President A. W. COWLES, of Elmira Female College, read a paper on the subject of Female Education. An ensuing discussion of the same subject by Principal DOWD and others, was finally suspended on motion of Secretary WOOLWORTH, to allow time for

Principal C. S. HALSEY's paper on English Grammar, which was not reached during the afternoon session. After the reading of the paper (Regent CURTIS in the chair) a spirited discussion arose in which Principals BENNETT and HALSEY, Professor HOOSE and others participated.

The hour of ten having passed, the Convocation adjourned until to-morrow morning at nine o'clock.

SECOND DAY'S PROCEEDINGS.

WEDNESDAY—9 o'clock A. M.

The Convocation united in offering the Lord's Prayer, Rev. President FISHER leading, and pronouncing the apostolic benediction.

The Executive Committee, through Prof. UPSON, announced the order of exercises for the day :

9 A. M. Method of Teaching Chemistry, by Prof. C. AVERY, of Hamilton College.

10 A. M. Statistics of Collegiate Education, by D. J. PRATT, of the Regents' Department.

10½ A. M. Female Education, by Mrs. J. H. WILLARD, Principal of Troy Female Seminary.

11½ A. M. Diplomas for Women, by Principal A. FLACK, of Hudson River Institute.

12 M. The Science of Language, by Prof. E. S. GALLUP, of Madison University.

1 P. M. Recess.

COLLEGE SECTION.

3½ P. M. Discussion on the requisites for admission to College, examinations, etc.

ACADEMY SECTION.

3½ P. M. Instruction of Teachers' Classes, by Principal M. WEED, of Middlebury Academy.

4 P. M. Comparative Philology, by Principal J. WILSON, of Onondaga Academy.

4½ P. M. Æsthetic Studies, by Principal J. W. BENNETT, of Genesee Wesleyan Seminary.

5 P. M. Necessity and Means of Literary Culture in Academies, by Principal O. ROOT, Jr., of Rome Academy.

5½ P. M. Recess.

8 P. M. The Study of History, by Hon. ANDREW D. WHITE, of Syracuse.

On motion of Prof. UPSON, the following resolution was adopted:

Resolved, That all the papers of the day be limited to thirty minutes, and each extempore speaker to one speech of ten minutes, until all who desire it have spoken.

The Chancellor invited the Convocation to meet at his residence at the close of the evening session.

The paper of Prof. AVERY, of Hamilton College, on the method of teaching Chemistry, was read in his behalf by Principal O. ROOT, Jr., of Rome Academy.

The subject of the paper was discussed by Principals S. G. WILLIAMS, J. S. GARDNER, J. D. STEELE, J. E. KING, N. T. CLARKE, and Dr. WOOLWORTH.

Principal ALONZO FLACK, of Hudson River Institute, next read a paper entitled "Diplomas for Women," (Chancellor FERRIS in the chair.) The following resolutions were submitted as a part of the paper :

Whereas, it is desirable to encourage a thorough literary course of study for ladies equivalent to the college course for gentlemen, therefore

1. *Resolved*, That the Regents of the University be requested to prepare for the academies of this State (that choose to carry ladies through such a course) a course of study for ladies which shall be equivalent to the college course for gentlemen.

2. *Resolved*, That the Regents of the University be requested to appoint a committee of their own number, or if the Regents of the University prefer, partly of their own number and partly of other literary gentlemen of this State, to act as an examining committee, at annual examinations of academies whose trustees may signify a desire to have the ladies of their academy complete the prescribed course above referred to.

3. *Resolved*, That the Regents of the University confer the degree of A. B. upon such ladies as pass a satisfactory examination in the course prescribed by them, or such a degree as they choose to confer upon ladies.

4. *Resolved*, That the Regents of the University (if they deem any action of the legislature necessary) ask the legislature of this State to designate a title for ladies which shall signify that they have finished a course of study equivalent to the college course for gentlemen.

The subject of the paper was discussed by Rev. Regent LUCKEY and Principals J. E. KING and C. F. DOWD.

A paper by Mrs. J. H. WILLARD, Principal of Troy Female Seminary, on Female Education, was read by Prof. A. J. UPSON, of Hamilton College.

After further discussion of the same general subject by Principals J. C. GALLUP and M. McVICAR, and Professor DANIEL STEELE, the following resolution was adopted, on motion of Principal S. G. WILLIAMS :

Resolved, That the resolutions proposed by Principal FLACK, together with the whole subject of Female Education be submitted to the Board of Regents for their consideration and further action, if they deem it advisable.

Statistics of Collegiate Education were presented in the form of a brief paper and accompanying printed tables, by D. J. PRATT, of the Regents' Department.

Professor E. S. GALLUP, of Madison University, read a paper on the Science of Language.

Vice Chancellor VERPLANCK made remarks upon the subject of the paper, introducing several illustrative anecdotes.

Chancellor PRUYN having resumed the chair, introduced His Excellency Governor FENTON, who favored the Convocation with a brief address of congratulation and welcome to the capital of the State.

AFTERNOON SESSION—3½ o'clock.

The paper of Principal S. G. WILLIAMS was made a special order for 9 o'clock on Thursday morning.

The Convocation then resolved itself into sections, as prescribed in the order of exercises.

COLLEGE SECTION.

The College Section met in the Senate Chamber, Regent CURTIS in the chair, and D. J. PRATT, clerk.

The subject of desirable requisites for admission to College was resumed, beginning with Latin.

On motion of Chancellor FERRIS, it was resolved that four books of Cæsar's Commentaries are a desirable requisite.

On motion of Professor GILLESPIE, six books of Virgil's *Æneid* were added.

On motion of Professor UPSON, six select orations of Cicero were included.

On motion of Professor GILLESPIE, it was voted that either Sallust's Jugurthine War or the Eclogues of Virgil should also be required, together with twelve chapters of Arnold's Latin Prose Composition.

The question of recognizing natural philosophy, chemistry, geology, rhetoric, etc., as desirable requisites, was discussed by Chancellor FERRIS, President HICKOK, and Professors AVERY GILLESPIE, UPSON, ROOT, WELLS, and LATTIMORE; also that of certain preliminary branches, by Professors GALLUP and STEELE President COWLES and others. As the result of the discussion the following resolutions were adopted:

On motion of Professor GILLESPIE,

Resolved, That the preceding requisites presuppose thorough preparation in arithmetic and English grammar and a knowledge of descriptive geography and the history of the United States.

On motion of Professor GALLUP,

Resolved, That the classical requisites presuppose a knowledge of classical geography and Greek and Roman antiquities.

On motion of Professor GILLESPIE,

Resolved, That this section does not consider it desirable, at present, to recommend any other requirements for admission.

On motion of Professor UPSON,

Resolved, That this section recommends the appointment of a committee by the Chancellor of the Board of Regents, consisting of three Presidents and four Professors of Colleges, to report, at the next meeting of the Convocation, some method of securing efficient action upon these requirements.

The clerk was instructed to report the proceedings of this section to the Convocation in joint session.

The Section as such then adjourned *sine die*.

ACADEMY SECTION.

The session was held in the Assembly Chamber, Chancellor PRUYN presiding and J. D. STEELE officiating as clerk.

Principal M. WEED, of Middlebury Academy, read a paper on the Instruction of Teachers' Classes in Academies.

Regent PERKINS, by invitation of the Chancellor, took the chair.

The venerable GIDEON HAWLEY, LL. D., who had been characterized as the "father of normal instruction," was invited to participate in the discussion of this subject, but requested Dr. WOOLWORTH to speak in his stead. Remarks were then made by Drs. WOOLWORTH and LUCKEY, and Principals KING, MERRILL and LANG.

Principal J. WILSON, of Onondaga Academy, read a paper on "Comparative Philology." Principal N. W. BENEDICT, of Rochester Free Academy, followed with remarks upon the same subject.

Principal C. W. BENNETT, of Genesee Wesleyan Seminary, read a paper on "Æsthetic Studies" (Rev. Regent GOODWIN in the chair).

The Academy Section then adjourned *sine die*.

EVENING SESSION—8 o'clock.

An address on the Study of History was delivered by Hon. Professor ANDREW D. WHITE, of Syracuse, (Vice Chancellor VERPLANCK in the chair). On motion of Rev. Regent LUCKEY, seconded by Regent CURTIS, a copy was solicited for publication in the proceedings of the Convocation.

After adjourning to meet to-morrow morning at nine o'clock, the members accepted Chancellor PRUYN's invitation to a social reunion at his residence.

THIRD DAY'S PROCEEDINGS.

THURSDAY—9 A. M.

The session was opened with the usual devotional exercises, conducted by Rev. Dr. LUCKEY.

Professor RODNEY G. KIMBALL, of the State Normal School, was chosen assistant secretary in the place of Principal J. D. STEELE, who was necessarily absent.

The Executive Committee, through Professor UPSON, reported the remaining order of exercises :

9 A. M. Special order—Discussion of papers on Female Education.

9½ A. M. Collegiate Education as a preparation for Legal Studies, by Prof. ELLICOTT EVANS, of Hamilton College.

10 A. M. Necessity and Means of Literary Culture in Academies, by Principal O. ROOT, Jr., of Rome Academy.

10½ A. M. Abstract of Reports on the Decimal System of Weights and Measures, by Prof. R. G. KIMBALL, of the State Normal School.

11 A. M. Elementary Instruction in the Classics, by Principal N. W. BENEDICT, of Rochester Free Academy.

11½ A. M. Miscellaneous business.

12 M. Adjournment, *sine die*.

The special order for 9 o'clock (S. G. WILLIAMS' paper on requisites for admission to College) was set aside, on account of the number of papers and amount of business still before the Convocation.

Professor ELLICOTT EVANS, of Hamilton College, read a paper on the Necessity of Collegiate Education as a preparation for legal studies.

Principal O. ROOT, Jr., of Rome Academy, read a paper on the necessity and means of Literary Culture in Academies.

On motion of Principal FLACK, twenty minutes were appropriated to explanations of the Regents' *Manual*, by Secretary WOOLWORTH.

The formal reading of the paper by Prof. R. G. KIMBALL on the Decimal System of Weights and Measures, was omitted. A resolution that the same be received and published as a part of the proceedings of the Convocation was adopted.

President FISHER, by unanimous consent, introduced the following resolutions :

Resolved, That it has afforded this Convocation peculiar pleasure to enjoy the presence of GIDEON HAWLEY, LL. D., and GULIAN C. VERPLANCK, LL. D., who, though they have attained an age which is generally

regarded as a sufficient reason to justify individuals in not engaging in public business, are yet found with us, illustrating their profound devotion to the interests of education in this State, by an active participation in the exercises of this body.

That we gratefully recognize the varied and important services of Mr. HAWLEY, continued through more than half a century, first as Superintendent of Common Schools, then as Secretary and subsequently as a member of the Board of Regents, in exciting a deeper interest in the general education of the people and molding it into its present form; and of Mr. VERPLANCK, whose elegant scholarship, wise counsels and earnest labors in connection with the Board of Regents for nearly forty years, have enhanced its influences and greatly promoted its usefulness.

That we extend to these venerable men—these bright and golden links between the present and the past—our congratulations, not only on the many years it has pleased our Heavenly Father to spare them to us, but on lives so long and intimately associated with those educational influences that are most vitally and happily to affect the prosperity and development of this great people; assuring them of our fervent prayers in their behalf, that when, ceasing to be members of this University, they pass from us, they may graduate with a good degree, and become members of the great Convocation of the redeemed on high.

The foregoing resolutions, seconded in highly eulogistic terms by Chancellor PRUYN and Rev. Drs. FERRIS and LUCKEY, were unanimously adopted by rising.

The following testimonial, submitted by Rev. Chancellor FERRIS, was also unanimously adopted:

It having pleased God in His allwise Providence to remove by death the Right Reverend Bishop ALONZO POTTER, this Convocation deems it due to itself, to the State, and to the memory of the deceased, to record its estimate of his eminent worth. Born in this State, educated in its institutions, developing unusual powers of mind, and beginning his public career in the service of the cause of education, few men have exercised a more decided and beneficial influence on its upward course. The works he has produced will long occupy the high place assigned them by his contemporaries. Carrying into a sister State the attainments of a life of assiduous study, he has graced the high ecclesiastical position he occupied so as to win the praise of all and advance in every proper form the interests of literature, science and religion. We mourn a common and unusual loss, and tender our sympathies to the family and large circle of friends, on their and our bereavement.

The Secretary was instructed to forward copies of the former series of resolutions to each of the gentlemen named therein, and a copy of the latter memorial to the family of the deceased.

Professor A. F. MONROE, of the college of St. Francis Xavier, having failed, through a misapprehension as to time, to prepare a paper for the present Convocation, occupied a few moments in remarks on classical training in Europe. On motion of Principal S. G. WILLIAMS, Professor MONROE was invited to present a paper on the same subject at the next meeting.

Principal N. W. BENEDICT, of Rochester Free Academy, read a portion of his paper on Elementary Instruction in the Classics. On motion of Dr. WOOLWORTH, a copy of the entire paper was requested for publication.

The following resolution was adopted, on motion of Principal WEED :

Resolved, That the sincere thanks of the members of this Convocation are due, and are hereby tendered to the Board of Regents for their admirable arrangements for this second anniversary; resulting in the growing interest and large success of each succeeding session.

Dr. CRUIKSHANK moved the following, which was adopted :

Resolved, That the several professional gentlemen, who by their presence during its session have manifested their interest in the objects of this Convocation, be requested to register their names as honorary members.

The proceedings of the College Section, during the session, of Tuesday and Wednesday, were reported to the Convocation.

The following resolution, offered by Principal S. G. WILLIAMS, was unanimously adopted :

Resolved, That the Academies express their satisfaction with the action of the Colleges, and with the standard of requirements by them adopted, and hereby declare their willingness to co-operate heartily with the colleges in making effective the scheme by them presented.

Dr. CRUIKSHANK announced the meeting of the National Teachers' Association at Harrisburg, on the 16th inst., and invited the members of the Convocation to attend.

Dr. WOOLWORTH requested the authors of papers to furnish copies of the same at an early day.

The following resolution was adopted on motion of Principal GRIFFIN, of Falley Seminary:

Resolved, That we request the Board of Regents to prepare and furnish to all academies that need them, at their expense, a set of blank books, such as is required in their late instructions for keeping records, etc.

Dr. LAMBERT offered the following resolution, which was unanimously adopted :

Resolved, That a vote of thanks is due, and is hereby heartily tendered to the Honorable Chancellor, Mr. PRYNN, for the admirable manner in which he has presided over our meeting and for the very pleasing acts of politeness exhibited by him to all the members of the Convocation.

The hour of 12 M. having arrived, the venerable Vice-Chancellor, after a brief closing address, declared the Convocation adjourned and called upon Rev. Chancellor FERRIS to pronounce the benediction.

REGISTERED LIST OF MEMBERS IN ATTENDANCE.

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Vice-Chancellor.....	G. C. VERPLANCK, LL. D.
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ERASTUS C. BENEDICT, LL. D.	WM. H. GOODWIN, D. D.
ISAAC PARKS, D. D.	

N. Y. State Teachers Association.

J. B. THOMSON, LL. D.	Ex-President, New York City.
JAMES CRUIKSHANK, LL. D. ...	Corresponding Secretary, Albany.
E. DANFORTH	Recording Secretary, Troy.
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	Professor W. M. GILLESPIE.
	Professor JONATHAN PEARSON.
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Hamilton College	President S. W. FISHER.
	Professor CHARLES AVERY.
	Professor OREN ROOT.
	Professor ANSON J. UPSON.
	Professor ELLICOTT EVANS.
	Professor C. F. H. PETERS.
University of the City of N. York.	Chancellor ISAAC FERRIS.
Madison University	Professor E. S. GALLUP.
St. John's College.....	Professor LOUIS JOUIN.
Genesee College	Professor DANIEL STEELE.
	Professor JOHN R. FRENCH.
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People's College	Professor E. J. PICKETT.
Elmira Female College	President A. W. COWLES.
College of St. Francis Xavier	Professor A. F. MONROE.
Dudley Observatory	Director G. W. HOUGH.
State Normal School.	Principal OLIVER AREY.
	Professor L. C. COOLEY.
	Professor R. G. KIMBALL.

New York Free Academy..... Professor G. B. DOCHARTY.
 Professor A. WERNER.
 Rensselaer Polytechnic Institute.. Professor JAMES HALL.

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 Auburn Academy Principal C. W. BOWEN.
 Brockport Collegiate Institute.... Principal M. McVICAR.
 Professor P. J. WILLIAMS.
 Canajoharie Academy Principal R. L. THATCHER.
 Cayuga Lake Academy Principal WARREN HIGLEY.
 Claverack Academy and H. R. I. Principal A. FLACK.
 Professor R. C. FLACK.
 Professor S. T. FROST.
 Clinton Grammar School Principal J. C. GALLUP.
 Delaware Academy..... Principal S. FITCH.
 Delaware Literary Institute..... Principal G. W. JONES.
 Fairfield Academy..... Principal L. B. BARKER.
 Falley Seminary Principal J. P. GRIFFIN.
 Fort Edward Collegiate Institute. Principal J. E. KING.
 Genesee Valley Seminary Principal J. HENDRICK.
 Genesee Wesleyan Seminary Principal C. W. BENNETT.
 Professor J. H. HOOSE.
 Glen's Falls Academy Principal J. A. RUSSELL.
 Hungerford Collegiate Institute .. Principal J. D. HOUGHTON.
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 N. Y. Deaf and Dumb Institution. Professor O. W. MORRIS.
 North Granville Ladies' Seminary. Principal C. F. DOWD.
 Oneida Conference Seminary..... Principal A. S. GRAVES.
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 Oswego High School..... Principal E. J. HAMILTON.
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 Rochester Collegiate Institute.... Principal R. L. SATTERLEE.
 Rochester Free Academy..... Principal N. W. BENEDICT.
 Rome Academy..... Principal O. ROOT, Jr.
 Sodus Academy..... Principal E. CURTISS.
 Springville Academy Principal D. COPELAND.
 Troy Academy..... Principal T. N. WILSON.

Troy Female Seminary.....	Principals J. H. WILLARD, and Mrs. J. H. WILLARD.
Troy High School.....	Principal GEO. R. BURTON.
Walworth Academy	Principal JOHN G. WILLIAMS.
Warsaw Academy.....	Principal C. H. DANN.
Waverly Institute.....	Principal A. J. LANG.
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THE SCIENCE OF LANGUAGE.

BY EZRA S. GALLUP, A. M.,

Professor of Greek Language and Literature in Madison University.

No one will doubt the existence of a Science of Language, with a very definite character of its own; yet, there is no small difference of opinion as to the direction in which this science is to be sought, and the principles on which it rests. Indeed, as the subject is usually treated, we have not only a science of language, but many sciences; just as many as there are languages whose inflections and use have been reduced to a system of grammar. Accordingly, we have English Grammar, the Science of the English Language, Latin Grammar, the Science of the Latin Language, and so through the list. The result is, that we have a great deal of particular grammar, but of general grammar very little; in fact the meager outline pursued in our schools is well nigh worthless. And the student is led to suppose, as he passes from one language to another, that he is entering upon a new field of study, is confronted with new facts and principles, and feels the presence of a new class of organizing forces. And as long as language is thus viewed and studied, it will be impossible to lay any broader basis for a science of language than each separate tongue itself may furnish; while the same difficulties, in scientific analysis, meet us in the narrower field of a particular language as in the more abstract and comprehensive view of the subject. For the difficulties and peculiarities connected with a given speech are generally of the same nature with those which attend the growth and development of language considered as a whole. We hail, therefore, every effort to extend the limits of general grammar as a sign of progress. Whether it can ever be so extended and applied, as to reduce these particular sciences to the relation of species to a genus, remains to be determined; but it is cheering to notice that the tendency of linguistic inquiry, at the present day, is in this direction.

But granting that there is a science of language, there exists no small confusion as to the precise nature of it, and the principles on which it rests. The obscurity which hangs over this subject, can be cleared up only by carefully considering what principles are necessary to constitute a science, and then applying these principles

to language itself. We do not presume to give a definition of science which shall accurately include all subjects which of right should be included under that term, and exclude all which are incapable of scientific treatment. But in general terms it may be said, that every true science can be resolved into its *component elements and fundamental laws*. These elements, also, must be fixed and invariable. They can admit of no change, either in form or substance; for, so far as the elements vary, in either of these respects, the subject itself must vary; and no one would presume to ground a science upon varying elements; unless this variation, also, can be reduced to a definite law, which, in turn, will form an essential part of the science. A subject based upon arbitrary principles is a thing of practice, and only in certain aspects can be viewed as a science.

Again, a broad line of distinction exists between the physical, and the moral or historical sciences, as they are called. Though these two classes, are susceptible of the same method of induction in their treatment, and, when fully ascertained, may be equally fixed in their character, yet, differ widely in the data upon which they rest. A physical science, as its name implies, is only a formal expression of the laws of nature, where each effect is referred to a natural cause. A moral science, on the contrary, rests for its data upon the will, the taste, the culture, the customs, and even the caprice of society. The whole passionate and emotional nature of man finds play here. Back of these data, natural causes may exist, lying deep in the moral constitution of man, yet, we are so largely dependent upon outward circumstances to call them forth, and the chords of human life are swept by so many and fitful gales, that no one can predict with certainty the presence and operation of these causes; and we are left to deal with results. Hence, while physical science links cause and effect by a law of nature, historical science starts midway in the process, and gives you only the out-working of causes which it does not presume to explore,—treats only with facts as exhibited in the world's history. "Natural history," in the words of Dr. WHEWELL, "when systematically treated, excludes all that is historical, for it classes objects by their permanent and universal properties, and has nothing to do with the narration of particular or causal facts." The same is true in regard to physical science.

We have no room for illustration here, but in the following discussion the above distinction will be kept in view.

Now applying the principles stated to our subject, we inquire, first, what are the constituent elements of language upon which to rest a science? Until quite recently, the uniform answer to this question has been, that the constituent elements of language are words. In our investigations we do not carry our analysis beyond these. True, words are resolvable into their component letters; but these letters are mere arbitrary signs of certain vocal sounds which have little or no significance in themselves; and no one would say that the primary elements of language are the arbitrary signs of meaningless sounds, or the sounds themselves. This would be the reverse of the old axiom, "*ex nihilo nihil fit*," for out of nothing would come a great deal. So that upon the common theory, words must be accepted as our ultimate analysis. But what have we here upon which to ground a science? Words are subject to important variations, both in form and meaning, if not in substance. Any spoken language suffers great changes, in these respects, within the short space of a single century. Words, once familiar and in current use, become obsolete, and new ones are brought in to fill their places. And many a word, of ancient and honorable heraldry, once passing freely among the most refined and cultivated, loses caste in time, comes under the ban of vulgarity, and disappears from the language of social life. While others, originating in the very scum and dregs of society, escape, at length, the ignominy of their birth, and, by some inherent power of their own, pass up through all the grades of usage, and gain a permanent footing in the literature of an age. Others again, while they hold a place in language, are so changed both in form and meaning as at last to be wholly denuded of their former selves, save a few skeleton marks by which they may be identified and their history told. Now it will not do to pass these by as mere freaks of language, and only matters of learned curiosity. They are too important in themselves, and of too frequent occurrence. Some evil sprite must be ever on the move, sowing the seeds of them, and the ready harvest shows a fitness in the soil for their production.

Poetry and philosophy, too, are always making large inroads upon the simple and ordinary meaning of words; taking them out of their primitive and natural sense, and transferring them to some mental conception, or operation of the mind, to which their former meaning was analogous, and holding them so closely to their transferred use, that the original and literal one is lost from view.

Every language abounds with illustrations of this process. And among nations where the imaginative element is dominant, what a marvellous play does metaphor carry on with the meaning of words. Under its spell, how they glide from meaning to meaning, till their final resting place is a wide remove from the original starting point; or perchance, at once, they are clothed upon anew, and, henceforth, we know them only in their borrowed dress. And though the words which constitute the great body of a language, may remain substantially the same, for a long period, yet so numerous are the changes and modifications which actually take place, that in examining the productions of human thought in the light of any given age, we can go back but a little way before meeting with difficulties and obscurities which compel us, at last, to shift our standpoint to the particular age whose literary records we would examine. We can make out to read WICKLIFFE and CHAUCER, but when we come to the English of the thirteenth century, we can only guess its meaning and fail entirely with works of an earlier date. These changes in language may be more or less rapid, but they take place in all times and in all countries. And so subtle are the laws which govern these changes, and they rest upon causes so varied and fugitive as to, thus far, baffle all attempts at scientific analysis; and the most decided advance in this direction, has resulted in nothing more complete and satisfactory than what is included under the rather barbarous terminology of "*Phonetic Decay and Dialectic Regeneration*,"—terms, we will venture to say, which only a German would have invented. Hence when a question arises as to the proper use of a term, or its right orthography, we are referred to the practice of the best writers and speakers as our ultimate standard of appeal. Thus we see that, regarding words as the constituent elements of speech, we have no necessary law for their admission to, or loss from, the vocabulary of speech, nor for the changes, both in form and meaning, which they undergo; but all is referred to conventional usage,—a very sandy foundation upon which to base a science. And even when reared, the building must be kept with open doors for all new comers that may arrive, and to allow ready egress for those whose term of service has expired; and at the same time provision must be made for a pretty free interchange of character among the permanent residents.

In like manner, the rules which govern the structure of words in a sentence (which are just as liable to variation as the words

themselves), as they are usually stated, rest upon no necessary and scientific principles; but the standard of appeal here is the "*usus loquendi*." Whence this '*usus loquendi* arises,' is deemed a barren speculation. In the higher departments of Logic and Rhetoric, we have an approximation towards a scientific statement of the laws of thought and expression; but the principles of language, which underlie these sciences, and by which these sciences are possible, derive their sanction wholly from the concurrent practice of well informed writers and speakers. Thus the acquisition of a language appears to be only a process of *imitation* like the acquisition of an art; and the learner, from first to last, from the first prattlings of childhood till he becomes master of a speech, must conform himself to the standard of established usage, and beyond its sanction he may not go. The absurdity of attempting to found a science upon a varying custom is apparent at once.

And it should further be borne in mind that this "*usus loquendi*" considered as an explanation, or even in the light of an ultimate standard of appeal, is the most unphilosophic thing in the world. Were it true, that language is the product of human invention, that both the words which compose it, and the laws which govern them, obtain use only by some formal concurrence among men, then, established usage would be a finality, and whether based upon philosophic grounds or not, it would serve our purpose fully for an explanation. But this is not so. Language is not the work of human invention. It may be the servant of man, but is not his creation. He may mold it to his taste, but its living forms he can never create. And it is a sufficient proof of this, to say that no man, or body of men, have ever originated an entirely new word and brought it into use. We may make a new application of a word, just as names are given to places, and from these proper names, again, common ones are derived, as *bayonet* comes from Bayonne, where this implement was first made. We may change the part of speech of a word; drop an ending here and add one there, and thus make the noun an adjective or verb, or take these latter in a substantive sense. This is only working on the material which we have, and making it serve for different uses. But it is not in the power of this assembly, or any other, however wise or numerous, to decree the *use* or *non-use* of any term in language. Words rise from their obscurity, or are drawn from foreign sources, and if they fill a place in language, if they fitly represent an idea, they obtain use and pass current among men.

But if, from any cause, they are jostled in their course, and lose their connection with the idea, or are supplanted by any more fitting term, they fall out of the vocabulary of speech, and appear only as landmarks in the past. Men may legislate, change laws and customs, and thus create a history; but they can never legislate *words* into use or disuse. These are too ethereal for their touch. So that the "*usus loquendi*," as an explanation, means nothing, unless it be claimed that it is an *exponent of those subtle laws and forces which govern language and therefore is authoritative*; which is doubtless true. So let us understand it then, and bend all our energies to the development of these laws and make them the basis of our science; and where these are undiscoverable, content ourselves with the nearest exponent of them. If we can find nothing more ultimate than established usage, language must be classed with the historical sciences. But if we have partly law, and partly custom, then language must be considered, as in part a physical science and in part a historical one, and be treated accordingly.

But the question is still open, as to the nature and origin of words. Whence come they? Are they mere arbitrary signs, accidental in their origin, coming and going, like the winds, no one knows whence or whither? Or have they an independent life of their own, and though standing ever as the servitors of our will, are they subject to our modifications within certain limits only and in given ways? The writers of the eighteenth century, with scarce an exception, taught that "words are arbitrary sounds employed by common consent as signs of our ideas." And this definition prevails still, and is the fundamental principle upon which our grammars have been constructed. But *when* and *how* was this consent given? And *who* ordained that a given word should stand for a given idea? Is the principle a fact, or is it an assumption? Surely this process of speech-making, if real, must have had a beginning somewhere, and been carried on, with marvellous industry, in all lands and among all people. And it is passing strange that the records of history contain no trace of it: nowhere tell us how the thing was done; and no less strange, that the principle should find a place in scientific works, when there is not a fact to substantiate it, either in history, or in language itself.

But a recent writer, of vast learning and research. (Prof. MAX MÜLLER, of Oxford,) presents a theory in bold contrast with the principles stated above. He alleges that the question as to the

origin of language "carries us back far beyond the cuneiform literature of Assyria and Babylonia and the hieroglyphic documents of Egypt, and connects through an unbroken chain of speech with the very ancestors of our race:" that whatever view we take of the origin and dispersion of language, "nothing new has ever been added to the substance of language, and all its changes have been changes of form, and no root or radical has ever been invented by later generations, as little as one single element has ever been added to the material world in which we live; and in one sense, and that a very just one, we may be said to handle the very words which issued from the mouth of the Son of God when he gave names to all 'cattle, and to the fowl of the air and to every beast of the field.'"* In accounting for the vast number of words employed in all the languages spoken, he assumes that the final residuum, in a complete analysis of speech, is not *words* but *roots*—*roots predicative* and *roots demonstrative*,† which must have formed the basis of the primitive language spoken on the globe, now lost, beyond recovery, in the darkness which rests upon the early history of our race. These roots through various modifications—partly from different modes of articulation among different nations, and partly from other causes—have been transmuted into all the languages which have since existed, and form their living substance still. They lie far back and deep down in the primitive formations of speech, and their out-croppings cover its entire surface, and what appears to us as new soil, is but the broken particles and rounded forms of these old granite elements, borne down to us beneath the wash and wear of succeeding ages.

That there must have been a primitive speech, the common genesis of all the different families of speech, is shown by the fact that all the languages, which have been analyzed, when viewed in their elementary forms and inflections, indicate, a common origin. For instance, the old Sanskrit was a written language at a very early period. It is claimed by some that its earliest literary records date back to about the fifteenth century B. C. This is a language remarkably philosophic in its structure, in which it is easy to separate the radical and formative elements. It is, therefore, of the highest value to the comparative philologist. Kindred with this, but not derived from it, are

* Science of Language, pp. 36, 37.

† *Predicative roots* are verbal roots from which are derived verbs, nouns and adjectives. From *demonstrative roots* are derived the personal pronouns proper and some forms of the demonstrative, and of the demonstrative adverb, as *this*, *there*. Neither class of these roots can be derived from the other.

the Latin and the Greek, as is shown by comparing the roots of some of their more important and common words and their inflectional endings. Again, it is well known, that the Teutonic languages have flowed in a channel wholly distinct from the Latin and the Greek, and have not been materially affected by them, even to the present day. Here we have a number of independent dialects, which have existed, side by side, for centuries, and seem destined to retain their individuality for a long time to come, notwithstanding the interpenetrating forces of modern civilization, greatly intensified in their action upon the German races, from their immediate proximity. These dialects, it is true, present serious difficulties to the linguist in determining their precise relation and genealogical order. It cannot be shown that there is now, or ever has been, any one dialect among them from which the rest have sprung; but one or two of them at least show an equally strong affinity with the Sanskrit, as do the Greek and Latin, leading us to the conclusion that these Teutonic dialects are but different streams, flowing at different periods, and through different soils, from the same source as the old Sanskrit.*

The Celtic language is the oldest of the Indo-European stock, and, at different periods must have prevailed over no inconsiderable part of Western Europe. The Celts were early supplanted by the Teutonic tribes in the neighborhood of the Baltic, and were subsequently driven from France, Portugal, and Spain by tribes who spoke a modified Latin, from which have arisen the languages of these countries, respectively. There remain of this language, the Welsh, Cornish (lately extinct), Irish, and the Gaelic spoken on the western coast of Scotland and on the Isle of Man. Strange as it may appear, this language, subjected to such a changing fortune for so many centuries, must have sprung from the same original type as the languages mentioned above.

The Semitic group of languages, including the Aramaic, Hebraic, and Arabic, present a grammatical frame-work wholly distinct from the Sanskrit and the languages co-ordinate with it. Here each root must consist of three consonants, and new words are derived from these roots by vowel changes, leaving the consonantal skeleton as complete as possible.

Though the Semitic constitutes an entirely independent branch of speech, yet its radical forms point to the possibility at least of *being derived from the same original type as the languages of*

* Donaldson's Crutylus.

Europe. The same is true of the Turanian family of languages spoken in Northern and Western Asia.

Now, it is not to be supposed that every word can be traced back and identified as coming from roots now found in some early branch of speech, but a sufficient number have actually been traced out to show that all the streams of living speech, to-day, lead steadily back and converge towards a common fountain head. And this convergence has been shown in so many languages and those, too, spoken by so large a portion of the human family, that the inference is a fair one, that *all* the varieties of human speech, however unlike they may appear to be, are only diverging streams from a common source. Nations, therefore, have no power to originate new and independent forms of speech, but can only modify and reconstruct, within certain limits, the materials transmitted to them from an anterior source.

This view of the common origin of all the varieties of language is strengthened by what is called the *Morphological Classification of speech*. Roots are not only the constituent elements of language, but they have a normal mode of development. First is the *monosyllabic stage*, in which every root is a word, and every word a root, as in the Chinese. Second, the *agglutinated stage*, in which certain particles are attached to the words to indicate their grammatical relation, but are separable from them and occur as independent words, as in the Turanian family, and to some extent, the Semitic. Third, the *inflectional stage*, in which these particles of relation have lost their separate form and meaning, and appear only as terminational endings, to indicate the connection of words in a sentence, as in the Greek and Latin.

In the first stage, the words stand out by themselves like a series of separate pictures, with nothing to indicate the grammatical connection but the order in which they stand and the logical relations of the ideas. Such a speech will necessarily be cast into short sentences, from the difficulty of expressing clearly the higher and more complicated relations of thought; and a nation, using it, will be educated in particulars, with very little power of generalization. This, therefore, is not a speech adapted to hard thinking, nor to meet the wants of a philosophic people. In the second, the relations of ideas are subordinate to the ideas themselves; and the words expressive of these relations are "glued" on to those which denote the leading ideas, so as to assist in tracing the logical connection of the thought. Language in this

stage indicates a higher exercise of the logical faculty and an advanced degree of intellectual culture. In the third, the idea and its relations are made one, as it were, by being united in a single word, thus presenting the whole conception in its most compact and substantive form. From the nations, using a language in this stage of development, have arisen the mighty men and rulers in the world of thought. It may be questioned whether we have not, still, a higher stage of development, in which words escape again from the trammels of inflection, and those which indicate grammatical connection only, lose their original meaning and dwindle down to mere particles of relation, and no longer burden the thought with any significance of their own, as is mainly true in the English and the French. Besides, every inflectional language (according to MAX MÜLLER) must previously have been "*agglutinated*" and every agglutinated form must have been *monosyllabic*. It is seen, at once, how thoroughly this classification exhausts the different forms of speech which have arisen in the world, and how philosophic it is, in arrangement. Here we have, at last, something like a natural basis for a science of language—*its living forms being derived from one original type with a natural mode of development*.

To lay bare these primitive roots, which, if the theory be true, constitute the real stock in hand of all languages, and trace the different dialects of speech, as far as may be, back to the source whence they sprung in the science of language. "*Hic labor, hoc opus est*," is the special work. We see at once the extent and intricacy of the work to be accomplished, and there is little probability that it can ever be successfully done. There are too many broken links in the chain which can never be united: too many sad periods, and unfortunate races, with no literary records to reveal their doings: too many unknown tribes of men whose origin is involved in hopeless obscurity. Yet these are the very periods and races in which the most violent changes have been wrought in the vital substance of language. With rude implements, and unskilled hands, these ignorant tribes fashioned again the living forms of speech, forcing them into new and strange combinations; breaking up what had already been united, and sending the parts adrift, each in a separate life, to meet the demands of speech; and *what* they did, is revealed only in the literature of a succeeding age. These broad lacunæ can be filled up only by the aid of analogy, and probable conjecture, leaving it doubtful, in the end, if we

connect aright what is found on either side. But enough has been done to show *where* are the great currents in the onward flow of speech, and enough has been gathered, too, to lay the foundation for a grand and comprehensive science. And it is evident that down in these primitive forms of speech, must this foundation be laid. Here we have elements fixed in their character and incapable of farther dissection. All other modes of treating the subject are superficial. They deal with results and not with the processes, which lead to these results—look at what appears on the surface as though it were ultimate, without considering that the materials of that surface have come from depths below, or been borne to their present resting place, from distant sources, by the force of mighty currents which have been in progress. We should make but poor geologists, should we confine our analysis to the mere classification of soils which cover the bosom of the earth. A very practical science could be established here, well worth the having and the knowing, but telling you nothing of what lies beneath, or whence these particles come which now form the surface of the globe. But the true geologist gets at the lowest strata of rock beneath him, examines the successive layers as they rise one above another, and comes to the surface last, assured that he will here find but the modified elements of what he had met before, though changed indeed, and ever changing, under the action of many forces, steadily working through the lapse of time. Prof. MÜLLER, with great skill and learning, claims for language a place among the physical sciences; and were it only necessary to demonstrate the existence of certain primitive elements, as the ground-work of all speech, and their normal mode of development, this claim might be conceded. But when we come to account for the wide divergency of dialects derived from a common source, as in case of the Romanic languages of Europe, and the whole stock of Indo-Germanic tongues: when we come to explain the changes which take place in the body of a language—how existing elements are ground down into shorter and more flexible forms, or expanded by new combinations—how the elementary sounds are changed or modified by a peculiar mode of articulation among a people; we meet with a new class of facts which separate language, "*longo intervallo*," from the physical sciences. True, there are laws* for consonantal

* Grimm's Teutonic Grammar.

and vowel changes, susceptible of a very wide application to the languages of Europe. But are they equally applicable to earlier periods in the progress of language and the radical differences between the three great families of speech, the Aryan, Turanian and Semitic? Do not many of these changes rest purely upon historic grounds?*

Besides, there are certain radical differences among languages which cannot be explained on any physical theory. For instance, some languages have a wonderful power of interior growth. Flexible in their simple forms, they expand ever by an easy combination of their own elements, and hence are homogeneous in their structure throughout, like the Greek and German. Others show an equally wonderful power of growth by foreign accretion. They feed upon every dialect within their reach. "Home production, to the exclusion of foreign fabrics," is the law of the one class; "Free trade and ready importation," the law of the other; and the peculiarities are no more referable to "physical" laws alone than the principles of trade and commerce among different nations.

There are also important changes which language undergoes that must be referred to political causes that exist outside of language and are only reflected in it. Take the well-known fact, that often a conquered nation has been compelled to adopt the language and institutions of their conquerors. The forcible blending of two distinct dialects, under circumstances like these, must necessarily lead to much that is arbitrary and accidental in the result. It is easy to imagine the play of the forces in this contest for life. The weaker elements, on either side, steadily give way before the stronger, and, thus, a more vigorous compound results, as in the Anglo-Saxon. A foreign word may better suit

*A most perilous life have these old roots lead in passing out of these phonetic organs of ours. What a changing game do the letters play—in and out, forward and back—*a* becomes *e* to be changed into *o* or disappear in a diphthong, and perhaps crops out again as a long *u* in some modern dialect. The consonants, which form the skeleton of words, skip about from first to last, and into the middle, to be turned out again; often gliding from palatal to dental or labial, and back again; and are doubled or strengthened to suit the governing taste of the hour. Thus the Sanskrit root *pas* to see is *stap* and *stap* in Greek, *spec* and *spect* in Latin (whence it enters as a radical in a large number of English words, *respect*, *suspect*, &c.), German *speha*, English *spy*, old French *espie*, modern *espion*. But this old root, though having done service so long, and among so many races, in the sense of, to see, is fairly "switched off" from its original meaning in our "special train" and in all our "specialties." In looking at the mutations which these old radicals undergo, and their tenacity of life, we do not misapply the language in saying "Yea all which a root hath will it give for its life." Now it requires a large faith to believe that all these changes can be referred to material laws existing in language itself, and so fixed in their character, as to form a part of a physical science.

a given idea, and it drives its home competitor from the field, and henceforth occupies the ground alone. And now two words of equal force and power, each denoting the same idea, hold their places side by side and share a common life; till, by some caprice or accident of use, one rises into the ascendancy and wins the day. In such a process as this, science can do little more than note the result, together with its cause.

From this blending of dialects, also, marked changes may arise in the internal structure of a language, which materially alter its aspect to the eye. Previous to the Norman conquest, our own tongue had a pretty full system of inflections in general use. But the large influx of foreign words about this period and onward, to which these endings could not be easily attached, finally led to their discontinuance; and now the words stand out, in their individual character, nationalized to some extent, in their endings, but stripped of all which is not essential to their meaning, and with no appendages to indicate subordinate relations. This led to some change also in the order of collocation. Words grammatically agreeing could no longer be widely separated or inverted in position, but must succeed each other in the natural order of the thought, allowing the mind to note, first, each separate idea, and then mass the whole into one complete thought. The potent causes which wrought here, were the early christianization of Britain, the Crusades, and the Norman conquest.* True, such a change, and so great, may rarely occur in the history of a speech, but it shows the possibilities in the life of language, and the potency of causes wholly exterior to itself.

And what a history does the Negro dialect of our own country reveal of the degradation of that unfortunate race. Broken, disjointed and grotesque in its structure—the simplicity, the irregularity and abbreviations of childhood, carried on through life. The nursery was their school for language, and they made few changes in what they learned there, and added little to it, as the years passed over them. But it tells the story of their life, and also, what a language may become, when subjected to the crushing influence of a political status like theirs.

These are only a few out of a large catalogue of events which have controlled the fate of language. In fact the history of language is identical with the history of man. How thoroughly does it take in and reveal all the central facts which have wrought so powerfully upon his destiny, and even drawn the lines and fixed

* *Marsh's Lectures on the English Language.*

the boundaries of his career. If there is anything which precipitates the elements, held in solution in the social life of a people, and presents them in crystalized forms, it is the language which they use—language which shares their life and their fortunes—which grows with their growth, and fades with their decline. Language, therefore, is the third term in a series of distinct but mutually related quantities. First, there are historic events as controlled by the providence of God; second, national and individual life and modes of thought, as affected by these events; third, language which reflects the action of these events upon a nation's life. Or to state the question formally, What historic facts are to the life of a people, that the life of a people is to the language which they employ; and in no way can this latter term be eliminated from the former two and treated as independent in itself.

Language therefore is not ultimate in itself, nor are the changes which it undergoes first and solely within itself. Back of the expression is the thought, back of the word is the idea, and any change in the former is a crystallization of what has already taken place in the latter. Language has often suffered by being treated as though it had an independent existence, and could be judged of by itself, and its laws determined; as if it were some plant of wondrous life and power, growing down through the ages, feeding ever upon the soil on which it rests, and sending out a branch here and withering there to meet the changing fortunes of our race. But language has no power of spontaneous growth. It is developed only as acted upon. The informing life is other, and different from itself, and it merely takes on the form and pressure of the power within. It is purely representative in its character; and like any other commodity so used, rises and falls in the market, or disappears, according as that which it represents changes in value or becomes worthless. A word without an idea is a meaningless combination of sounds. Make it the representative of an idea, and it becomes significant, and rises to the dignity of speech; and so long as the two remain wedded together, the word holds its place as an integral part of language. But break this connection from any cause, and divorce the two, and the word falls out of use and is gathered to the waste and rubbish of the past. Nor does the mere concurrence of words constitute *speech*, even though they stand in proper order according to their *grammatical functions*. Beyond this it is necessary that the syn-

tactical arrangement accord with the natural properties of the ideas which the words represent; and their order in the sentence must not conflict with the logical relations of the thought. Otherwise, if the words tell you anything, it is a falsehood. From this it follows, that the laws of thought lie at the basis and control the laws of speech, and any theory of language will fail to meet the requirements of the case which does not recognize this fundamental truth. It is thought which molds expression, and not expression thought. And here as everywhere, the life is not only more than meat, and the body than raiment, but in the natural order, the life and the body come first, and appropriate the latter to their use. The expression is born of the thought, and if exact bears the very form and likeness of the original before it. A true thought will ever seek a fitting expression. And hence it is that so many men, unblest with the culture of the schools, come to use their native tongue with so much clearness and precision. They *think aright*, and, therefore, they *speak aright*.

An old question arises here, which has an important bearing upon our subject. Can there be thought without language? Can we think or reason at all, without the conscious accompaniment of language? This at least, is certain, that no one can contemplate his own thoughts and make them clearly intelligible to himself or others, without language. But if it be true, that there can be no thought which has not a verbal expression, if these two entities are so closely joined that their birth is one and inseparable and there are no strivings in the womb that the younger may not serve the older, then must language be the measure of thought, and the necessary limitation of it; setting bounds which it may not pass, be they wide or narrow; and there is not a thought or conception in our minds which has not its word-jacket on, ready to step forth to view. The writer can only say, that his thoughts often seem to come to him exceedingly naked; and it requires no small rummaging among the household goods to find the garments with which to clothe them, and a great deal of cutting and stitching to make them fit. But on the theory of no thought without language, it is unphilosophical to suppose that there can be any more thought in an expression than the words fully express, (aside of course from the group of related thoughts,) or that thought can ever go beyond the fixed vocabulary of speech. Adieu, then to all progress and discovery—to all expansion of the field of thought. *Within the limits of human speech already fixed in the number and*

meaning of its terms, all thought is "cabined, cribbed, confined," and "the thing that is, is the thing that shall be," in a very emphatic and literal sense. But on the contrary, is not the human mind always pushing out into the unknown and mastering the phenomena that may arise—trenching ever upon that border land before us, into which the lights we have are sending their scattered rays, and thus widening the field of knowledge : and in its train follows language, giving form and permanency to these results. The history of all scientific discovery and progress in knowledge is an illustration of this; and even the history of language itself. The old Greek tongue was exceedingly rich and copious for all the purposes of poetry, oratory, philosophy and art; for it was in these directions that this remarkable people reached their highest development. Even the limited vocabulary, handed down to us, far from embracing all the words of the language, is yet sufficiently copious to meet the wants of the poet and orator of to-day; while the speculative philosopher would find it wondrously adapted to his use. But even in its widest range, as actually employed by that people, it would not meet the wants of any civilized and enlightened nation at the present time. In scientific terms it would be found exceedingly barren, and for the best of reasons; while much that exists in our complicated social organism, would not find expression through it. This fact alone reveals the difference between their civilization and our own, and shows in what direction the human mind has been moving since that distant period.

Unspeaking childhood thinks and reasons : brutes think and reason, according to very high authority, and those who are denied the faculties of hearing and of speech, often show a fine intelligence and power of thought ; but in *what language* they do this, has never been discovered.

And surely there is much in the emotional nature of man that never finds expression, even at the hands of the most gifted—much in human experience which sighs for utterance, but finds none. And it is a significant fact, and one which will surely reveal itself in the progress of our language, that the poets of the age tell us so much of our inner life and deeper experience. Forsaking the old fields of romance and legendary story; rearing no more those splendid creations in which character and scene, time and circumstance, spring forth as by the wand of a magician, and the whole *stands before you as a garden of life*; the poet of to-day sits listen-

ing to the story of his own heart-experience, and feels the throbbings of the great heart of humanity—tells you of bitter days, and lives overburdened with their weight of sorrow. Now in all these respects, thought, emotion, and experience, are really in advance of language, and seek to find expression through it, and to subject it thoroughly to their use. The mind instinctively rejects all terms which are not suited to its conceptions, seeming to hold the thought in abeyance till the fitting word is found; requiring not only a correspondence in meaning to the idea, but, also, in the elements of sound and force. If the thought is poetic, it must be expressed with the accompaniments of rhythm and measure. If sharp and pungent, words are selected which have most of this stinging force in them as they fall upon the ear. If the sportive offspring of your fancy, the language must be graceful and easy, and amble, as best it may, to suit jocund movement of the thought. Here the whole æsthetic nature finds play and expression; and words “fitly chosen” which in point of euphony and force, suit well the idea, soon gain a general acceptance, and any turn of the expression which gratifies the taste, and conforms more closely to the peculiarities of the thought, readily comes into use; and this too, without any formal assent of the people, and independent of any law in the language itself; but simply because the human mind instinctively requires this correspondence between the word and the idea, the expression and the thought.

And even the grammatical functions of words, and the rules for their structure in a sentence, rest upon the laws of thought. In the first place it is not accidental nor conventional, that every language is made up of the so-called *Parts of Speech*. Words possessing precisely these functions, and no more, are requisite to constitute a speech. And this arises, not from any necessary limitation of language, in the multiplication of its forms, but because the human mind requires just this apparatus and no more, for the proper expression of its thoughts—just so many blocks, joints and fastenings, with which to rear its ideal creations. Words are divided again into *notional* and *relational words*, i. e. those which express definite ideas in themselves, and those which denote merely the relations of ideas. The *notional words* are only four, viz.: the noun, adjective, verb and adverb (not including the demonstrative adverb): simply because all thought consists of *ideas*, of *objects*, or existences (nouns); the *qualities* of those objects (*adjectives*); the *activities* or states which may be

affirmed of them (verbs); and their *modes* of action (adverbs). What we farther need is to express the relations under which these ideas are conceived to exist. This is done by relational words. In the sentence "Large bodies move slowly," we have all the notional words in language. The rest are relational words.

Again, the different combinations into which words are thrown, depend upon the relations of the ideas which they represent. Thus nouns are combined with nouns, and adjectives with nouns to form compound ideas; as 'a beautiful tree,' 'a tree of the forest,' 'a tree in the garden.' But we cannot say 'a tree of water,' or 'a tree of sunlight,' because the objects have nothing in common. These combinations are indicated either by uninflectional endings, or by particles of relation. But in either case, the language must conform to the proper relations of the idea. Such combinations, moreover, are simple apprehensions of the mind. But when we assert that one idea belongs to another, as a quality of it, or an activity which may be affirmed of it, a higher faculty is brought into use, namely, the *judgment*; and a judgment, expressed in words, is a *proposition*—the grand unit indefinitely multiplied in the structure of speech. For, as the longest train of thought can be resolved into a series of judgments, more or less intimately connected, and related, so the longest consecutive discourse, can be resolved into a series of propositions, corresponding both in number and relation, to the separate judgments which they represent. The proposition, therefore, is the unit of language. To use a convenient figure, "this is the stone cut from the sides of the mountain," whose evolutions fill the entire circle of human speech. The etymological part of the science of language, to a large extent, must be historic in its character. At least the proof must be historic. So many of the changes which words undergo, are local and peculiar, and depend so much upon the *taste* and *culture* of a people, and so often are produced by causes which belong to particular times and conditions. But when we come to the grammatical functions of words and their mode of combination in formal speech, we meet with principles of universal application. For as all men think alike, that is, in the excogitation of thought, the mental processes are always the same, it follows; of course, that when they come to speak, they must express themselves alike. Whatever language they may employ the proposition must always *take* the same essential form, and consist of the same elements. *There may be a wide field of selection in the material, but in the*

constitution of our own souls, God has given us the mold into which that material must be cast. The correct analysis, therefore, of the preposition, in its various forms, is an important part of the science of language, and is really its most practical part.

Among the various systems, proposed for the logical analysis of language, I know of none so complete and thorough as the system of Dr. K. F. BECKER, of Germany, now generally introduced into the schools of that country, and forming a prominent feature in German grammars. An outline of this I propose to give, premising, however, that it is not easy to find a convenient terminology in English for some of the terms employed.

Starting with the division of words, mentioned above, into *notional* and *relational words*, the Beckerian system makes three, and only three, *syntactical combinations* in language, viz: the *predicative*, *attributive* and *objective*; to one of which every word in a sentence must belong. The simple proposition consists of two factors, the *subject* and *predicate* and the union of these two factors forms the *predicative combination*, which is the leading one in language, and is indicated by the agreement of the verb or copula with the subject.

An *imperfect* proposition is common to all languages, which consists of a simple predication, with no logical subject, as 'it thunders,' 'it rains,' 'tonat,' 'pluit.'

I. In the perfect proposition, the subject must be a *noun*, or some word used as a noun, (i. e. a *noun pronoun* or *adjective* used substantively.) The infinitive mood, which is the *noun-form* of the verb, is subject to the principal constructions of the substantive.

The mode of the predicate is either *affirmative*, *negative*, *interrogative*, *conditional* or *imperative*. 'Man dies.' 'The soul does not die.' 'Does man die?' 'Man may die.' 'Die thou.'

Of the predicate, we have the following varieties and only these:

1. The predicate is a *verb*; as, 'Man dies.'
2. The predicate is an *adjective*; as, 'Man is mortal.'
3. The predicate is a *substantive*; as, 'This man is a merchant.'
4. The predicate is a *preposition and its case*; as, 'John is in New York.'
5. The predicate is an *adverb*; as, 'The fire is out.'

II. Next is the *attributive combination*, by which a substantive idea is enlarged or modified:

1. By an *attributive adjective*; as, 'A good man is loved.'

2. By a noun in apposition; as, 'Christ, the Saviour, died.'
3. By a noun in the genitive case; as, 'Cæsar's party was triumphant.'
4. By a noun with a preposition; as, 'A friend to the cause is needed.' 'The men in the city were taken.'

These are all the varieties.

III. The *objective combination*, by which the predicate is enlarged or modified by the addition of the various objects admissible after it. The *attributive combination* may occur here also. These objects are 1. *Complementary*; 2. *Supplementary*. Completing objects are those essential to the full predication of the verb, and are as follows:

1. The passive object; as, 'Alexander conquered the *Persians*.'
2. The dative object; as, 'John gave the book to *Charles*.'
3. The genitive object; as, 'He repented of *his folly*.'
4. The factitive object; as, 'They made him *king*.'

The supplementary objects denote the external relations of the predicate (often necessary to its full apprehension,) such as the *time, place, cause, manner* and *coexistence*, including also the adverbs of *modality*; as, 'I heard a good sermon, in the church, on Sunday,' (time and place.) 'The judge spoke with moderation,' (manner.) 'He spoke in my presence,' (coexistence).*

These are all the elements of a single proposition. Of compound propositions we have two varieties, the *subordinate* and *co-ordinate*:

I. The *subordinate compound proposition*. It is evident that a single proposition may itself be the subject of thought and be viewed in the light of a single idea, and hence may stand in a substantive relation; as, 'That God exists is true;' 'the existence of God is true.' 'Reason teaches that there is a God.' These are substantive propositions, in the relation of subject and object. Or a proposition may be used in an attributive relation; as, 'Our Father, who art in heaven;' i. e. 'our heavenly Father.' An *adjective proposition*. Or a proposition may stand in the relation of either of the supplementary objects mentioned above. Instead of saying, 'I heard in the church,' we may say, 'I heard, while I was in the church.' And as we say, 'Forgive us freely,' (adverb, denoting the manner,) so we may say, 'Forgive us our debts as we forgive our debtors.' Propositions, standing thus as the supplementary object of the leading verb, are called *adverbial propositions*, and, like supplementary objects, denote *time, place, cause, manner* and

*Adjectives are followed by the supplementary objects; as 'ripe in autumn,' 'bad by nature.'

coexistence. They constitute a very numerous class of propositions, and it will be impossible to give illustrations of them all here. For instance, in *adverbial propositions of time*, standing in the same relation as adverbs of time, we have the following varieties:

1. Where the action in the leading clause is coincident with the action in the subordinate; as, 'I was absent *when he called*.'

2. The action in the main clause precedes that of the subordinate; as, 'I left *before he came*.' (Comp. 'I was absent yesterday.' 'He left early'.)

3. Is subsequent to it; as, 'I left *after he came*.'

4. A repetition of the coincidence; as, 'Whensocver ye will, ye may do them good.'

In adverbial propositions of the *cause*, which state the logical relations of the thought, we have :

1. Those which denote the *real ground* or *cause*; as, 'He is rude, *because* he is ignorant.'

2. The *moral ground* or *motive*; as, 'He obeys me, *because he loves me*.'

3. The *passible ground* or *condition*; as, 'If ye *love me*, ye will keep my commandments.'

(Here belong all the forms of conditional propositions which contain an antecedent and consequent, protasis and apoclosis).

4. The *adversative ground* or *concession*, *i. e.*, the ground for the non-actuality of the predication; as, 'He lays up money, though *his salary is small*.' But the co-ordinate compound is the proper form for the adversative ground).

5. The *ultimate ground* or *purpose*; as, 'Honor thy father and thy mother, *that it may be well with thee*.' 'I tell it you, *that ye may know*.'

In adverbial propositions of manner we have,

1. Those in which the action in the main clause is compared with the action of the subordinate; as, 'Forgive us our debts *as we forgive our debtors*.'

2. Where the subordinate clause states the effect; as, 'he speaks *so as not to be understood*.'

3. *Intensity*, or *degree*, including *inequality*, as expressed by subordinate clause; as, 'He is as rich *as his brother*;' 'he is *richer than his brother*.'

II. The *co-ordinate compound proposition*, is formed by the union of two or more simple propositions, each independent of

the others, and expressing a complete thought in itself; and are united by some logical relation existing between them. Propositions, having no logical relation, cannot be thus united; as, 'God is eternal;' 'snow is white.'

These logical relations according to Dr. BECKER, are only three; *copulative* or *annexive*, *antithetic* and *causal*.

1. In the copulative variety, the compound preposition is formed by writing together kindred prepositions by means of the copulative conjunctions. The logical relation here, is often very slight, and difficult to define. The more frequent relation is, the common reference of the propositions to some leading subject or idea, expressed or implied. For instance, if you are describing an event, all propositions, relating directly to that event, will have a common affinity. Often we have a slight relation of cause and effect; as, 'the sun shines and the day is warm;' or a certain order in time; as, 'the sun rose and we pursued our journey.' There is no rule limiting the number of propositions so given. They may be abridged, whenever they have a common subject, verb, or object. 'The heavens and earth shall pass away.' 'God created the heavens and the earth.'

In the use of conjunctions, we have the following rule:

When the propositions are of equal logical worth and *unemphatic* they are united by conjunctions; as, 'the sun shines and the day is warm.'

But when they are of equal logical worth and *emphatic*, the conjunction is omitted; as, 'life is short; art is long;' 'the night was dark; the enemy stole on unperceived; they slew the watchmen at the gates and took possession of the city.'

2. Under the *co-ordinate comp. prop. antithetic* are included:

1. The *antithetic*; as, 'ye have not chosen me, but I have chosen you.' 2. *Restrictive*; as, 'the house is convenient, but the garden is waste.' 3. *Disjunctive*; 'Either the world had a creator or it exists by chance.'

3. Co-ordinate, comp. prop. causal.

1. *Causal*; as, 'The flowers are frozen, *for the night was cold.*'

2. *Illative*; as, 'Fortune is fickle, *therefore be not elated with success.*'

We have here propositions expressing: 1. The *real ground* or *cause*. 2. The *moral ground*. 3. The *logical ground*.

Illative and causal propositions may be converted into each other by changing their order; as:

'People avoid him, *for he is quarrelsome.*' (Causal).

'He is quarrelsome, *therefore people avoid him.*' (Illative).

III. The *intermediate proposition*. Where an infinitive mood or participle is connected with the verb of the proposition, the combination is called an *intermediate proposition*, because it occupies a middle ground between the simple and compound proposition, and may be expanded always into the co-ordinate or subordinate form; as, 'he answering said;' 'he answered and said.' The participle, thus joined to a verb, may denote the *time, cause, condition, or accompanying circumstance* of the action, and be resolved accordingly; as, 'he wept while standing;' 'he wept *while he stood.*' 'The enemy advancing, we retreated;' '*when the enemy advanced,* &c.' 'Taking this train you will be too late;' '*if you take,* &c.' One of the changes which our language is at present undergoing, is the gradual disuse of the participial construction and the substitution of a formal proposition in its stead, for the sake of greater logical precision.

The infinitive clause is an abridged form of a subordinate proposition, and may be so resolved; as, 'I wish to go;' 'I wish that I *might go.*' It is not necessary in analyzing to make this resolution always, but it is enough if the student understands the nature of these clauses and makes the proper reference of them. The infinitive mood with its subject in the accusative is only one variety of the subordinate proposition abridged.

Next follows the doctrine of the *decompound or loose sentences*, and of the period, the highest combinations in language. Then follow the *figures of speech*, the rules of collocation, and lastly, the laws of *euphony* and *emphasis*, the disturbing causes in the natural arrangement of words. This completes the subject.

The system is applicable to all languages, for it is based upon the logical coherences of thought, to which all language must conform. By the mastery of it a great saving of time and labor will be gained by the student, in the acquisition of any foreign language. It deals with language, considered as a whole, as common grammar deals with words. It "*parses*" propositions, assigns to each its appropriate name, and functions, and shows its relation to the sentence. Its important bearing upon Logic and Rhetoric is too obvious to need illustration. More of the practical part of these sciences can be learned through it, than it is possible for the student to acquire without it, and only by the

study of some such system can he ever become a thorough master of any speech.

But to sum up all that we wish to say upon the science of language. The proofs furnished by Comparative Philology, that the constituent elements of speech are certain primitive *roots*, the common stock, out of which all languages are composed, are very clear and decisive. They amount almost to a demonstration, and preclude the idea that language is the result of accident or conventional usage. And it must be conceded also that there is a normal development of speech, though it cannot be so conclusively shown, that all languages have passed through its successive stages. But the changes and modifications, which these primitive elements undergo in the progress of language; the radical differences between the great families of speech, and the separate dialects of a single family; the processes of growth and decay, ever taking place in the composition and structure of any tongue, can no more be referred to physical laws, so as to form a part of a physical science, than the changes and revolutions of States and Empires, which have permanently affected the lives and destinies of nations. There may be science here of the grandest dimensions, but it is the science of *man*, and not the science of language. We readily grant that the human mind can never create for itself the materials of speech. These may have been the gift, direct from God, at first, or the human soul, in its primal perfection, had the faculty of naming its own conceptions. For we are shut up, to one or the other of these conclusions. But the material once given, man molds it to his taste; makes it reveal the changes which his own surroundings have wrought upon him, and stamps upon it his "image and superscription," whatever form this material may assume. And this, from no necessary law in language itself, but because the mind requires a correspondence between its conceptions and the material which sets them forth. The phonetic changes which the constituent elements of speech undergo, among different nations, cannot be explained by any anatomy of the vocal organs.* It may be successfully told, how each sound is produced, and what sounds are kindred, and therefore interchangeable, and what are not. But the main question still remains unanswered, *why*, a particular mode of vocalization has been adopted by a particular people? *Why*, for instance, a certain class of sounds prevail, on one side of the English channel, and a class so widely different prevail upon the other. But when we come to the grammatical functions of the words which constitute a speech, and the laws which govern their combination in consecutive discourse; we meet with principles which, in their use, are coextensive with our race, and give an essential unity to all the *varieties of speech*; and there opens before us a science, as fixed in *its character and laws*, as the constitution of the soul itself.

* MAX MULLER, *Science of Language*—second series.

THE NECESSITY OF COLLEGIATE EDUCATION AS A PREPARATION FOR LEGAL STUDIES.

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I HAVE been assigned as the subject of the present paper, "The Necessity of Collegiate Education as a preparation for Legal Studies." I do not start with the idea that any practical results can be reached by such a paper. The professions have been thrown open to general competition, and the tendency of public sentiment is certainly not towards a check to that liberty. As a concession to what is called the growing practical character of the age, there is danger that collegiate studies may become less and less esteemed as prerequisites to professional excellence, and all that we can do here is to call attention to some of the great advantages of such studies, the comparative facility and cheapness of their attainment, and to show that to the student who seeks eminence and permanent reputation, they are all but absolutely essential as a preparation.

But, although I do not aim at any immediate practical results, such as the narrowing again of those avenues which have been thrown open so widely during the past few years, I am far from believing that the tendency to disregard collegiate studies as of no immediate practical advantage to a profession, will be constantly on the increase. I think, on the contrary, that the time will come for a reaction, and, in view of that possibility, any presentation of the advantages of a collegiate course, and any demonstration that it is not safe to dispense with it, will not be without its value, though such efforts may not bear immediate fruit.

I propose, at first, to present some points, in appearance collateral to the subject, but really direct, and afterwards to hazard one or two suggestions, whose bearing will be readily conceded if their truth shall be made plain. In doing this, I shall endeavor to waste no words in argument, to prove the details of my propositions, but simply present them for inspection.

First—the growing tendency to undervalue classical and other collegiate instruction as having no practical connection with a profession. This is a direct result of the increased importance

given to the mechanical arts, which is truly the characteristic aim of the present age. The philosophy of Bacon, which had for its object *fruit*, has been culminating in an attention to that cultivation whose fruit is most tangible—most easily obtained, and whose money value is most universally recognized. It is, perhaps, too hasty to stigmatise this tendency as evidence of increasing sordidness and lowness of aim. As an aim it is direct, and it has its hold upon the intellect, the aspirations, and the philanthropy of the age. We cannot expect to reason the age out of it, and yet it is my firm belief that it is as purely a temporary aim, belonging as exclusively to the present and immediately following centuries of the history of our race, as did the sentiment of religious art belong to the mediæval ages. I will not even say that it is less ennobling than the age of reflective thought which existed two centuries ago. I will not venture to deny that the highest and greatest developments—not merely for our physical comfort, but for our intellectual and spiritual progress—must be the eventual fruit of any aims holding with so firm a grasp, and so affecting the life and motives of mankind. But in its immediate influences no one who will examine can fail to discover a disregard for higher results, if they be remote, in an undue preference for immediate profit. In the mechanical arts, this profit, and much of their perfection, is the result of the most minute division of labor. The continually increasing introduction of machinery subdivides this more and more as mechanical workings dispense with human labor. These influences upon the whole social sentiment can hardly be overrated. It is this which causes the search after what is exclusively practical—which deems no knowledge worth acquiring except for its market value, and even then of little worth if its results can be more cheaply purchased than created by ourselves.

This division of labor is a necessity in material production where competition is active. Yet even here, it dwarfs the intellect which it employs, when that intellect has no other outlet for its exertions. And in the intellectual world, I deny utterly that this division which aims only at immediate results, does accomplish the most, or do its work in the best manner.

Our intellectual labors, moreover have for their prime object the elevation of our nature, and the fulfilment of the laws of our being. In this view, it is melancholy to contemplate the ill fortune of the man condemned to mechanical efforts so minutely subdivided that the mind employed in them, and the share of each indi—

vidual in their results, are almost infinitely small; to reflect upon man presenting to his Maker as the attainment of his life labor, a being developed into the small fraction of a power whose integer, composed of many such fractions as himself, is equal to the production of a pin.

I have conceded the necessity of this infinite division of labor for material production, and would only suggest that in its constant tendency to subdivision, there is danger of the dwarfing of the intellect of the productive class throughout the civilized world by the narrowing of the perceptive faculty—the only one employed—to such a minute range of its functions. But constantly increasing facilities for the education of the masses, presents a remedy. Through the advantages of even a common school course of instruction, the laborer can separate his being from the minute drafts made by his machine labor upon his intellect, and can find in other contemplations, food for the mind which will give it healthy growth, or at least save it from being stunted by confinement to the narrow quarters of a laborers occupation—quarters continually narrowing with further subdivisions of his labor. If it were not for these constantly increasing facilities for the education of the laboring classes, more than compensating the diminished development of his faculties through the demands of his occupation, the prospect of the influence of machinery upon the intellectual development of our race, would be far from cheering.

The exercise of a profession has, to a certain extent, the same narrowing tendency, unless the mind has in like manner been liberalized by a wide range of education. In the larger cities particularly, the practice of the law undergoes, to a considerable degree, this same division of labor. It is of no use to contend against this tendency here any more than in the subdivision necessary for material production. The same cause which produces sleight of hand—viz: frequent repetitions of the same act—will also give facility in the practice of a branch of a profession. Thus the lawyer who has all that he can do in one branch, confines himself to that branch, because he pursues it with the least outlay of mental effort, and with increasing confidence in his powers, and because his reputation gradually rests upon his knowledge of that subject. One practitioner is eminent for a knowledge of the law of real estate; another for his ability in patent rights, and again, another for success in the defence of criminals, so that in time, the

very ability of a lawyer the more certainly confines him to a single portion of his profession.

Now, the arguments of those who would dispense with collegiate training as a prerequisite for professional pursuits, seem to me analogous to the plan of teaching but a branch of the legal profession to which the practitioner intends to confine his labors. We might as well assume that the man who means to be a commercial lawyer is but wasting time when he investigates with minuteness the questions of remainders or uses—that it is much more practical to give his whole energies to the acquisition of the skill by which he means to live. Such reasoners will of course say that the comparison is unfair, because no man can predict in which branch of his profession he is destined to excel. But is it not equally doubtful whether he is to achieve eminence at all, and if he does so succeed, will it not have been through the development of his faculties? This development can no where be so easily acquired as through a collegiate education. This consideration leads to another apparently indirect, but really direct branch of the subject.

This is the erroneous as well as indistinct perceptions which multitudes have with respect to what is called self-education. They see men of strong will—capacity of self-denial—and naturally acute intellectual perceptions, who have succeeded in life, and sometimes raised themselves to great eminence, without having had the advantages of even an academic course. Many such persons have even acquired great learning, and, indeed, it is a noticeable feature, that a great number of so-called “self-made men,” labor with the greatest energy, in later life, in the pursuit of knowledge, showing plainly enough the estimate which their experience has enabled them to put upon the instruction denied them in their youth.

But let us ask what is self-education? Is it not true of all education? The term “food for the mind” is suggestive here. The self-educated man is like the hunter who procures his own food—others have theirs provided. But in both cases, the operation of eating and digesting is the same, and it is upon those functions that nourishment depends. No man ever yet acquired knowledge except through his own power to assimilate it. All education is self-education. The only difference is that to some it is made much easier than to others. Science has taught how knowledge can be best presented to the different stages of our existence, but

the assimilation of it is our own effort—just as we cannot eat or digest vicariously.

Again, if civilization means anything, it presents most forcibly the fact that its advancement is due to our enjoyment of the discoveries of our predecessors. If the so-called "self-educated man," had acquired his knowledge solely through the results of his own perceptions and reflections, we might indeed declare that the labors of the past had been to very little purpose. But the "self-educated man" derives his information from the labors of those who have gone before, just in the same manner as does the student of the academy or the college. He discovers very little of this knowledge himself. Even when he has obtained it without the apparent mediation of others, it is generally through truths which the civilization around him presents—truths whose discovery has been the very result of the knowledge acquired in past generations which the self-educated man sometimes thinks he has independently reasoned out for himself, but to which he has the key in countless inventions and habits of thought all around him.

It would be cheerless indeed, could we obtain the benefit of the labors of past generations only through a renewal of the mental efforts which produced them. KEPLER studied for thirty years, and deduced three laws, which any intelligent school boy can understand; the second of these laws being through an amount of numerical calculation appalling to the observer who realizes it. The practical teachings of NEWTON's life-labor, verified by the *Mécanique Céleste* of LAPLACE—a work so vast that few mathematicians even have time to do otherwise than take it as an article of faith—the results of these life exertions of two most gigantic minds, are in the reach of any average capacity, and enable all of us to take upon absolute trust the whole mechanism of the planetary universe.

Reasoning *a priori*, what should we then say of a system which declares as useless to man's professional advancement any knowledge of the truths which the civilization of centuries has stored up? It seems to me obvious that did all society, in all its pursuits, act upon this principle of laboring to produce more immediate practical results, it could not but relapse into ignorance and consequent barbarism. For what is barbarism, and what the stereotyped character of Oriental civilization, but the being content with those efforts whose results are immediately obvious? And how is civilization to be advanced and perpetuated, if mankind have not sufficient inducements to labor in the search of truth,

whether its rewards be immediate or remote ; and how are these inducements to be kept up, if the rising generation, in its search for intellectual eminence, is to imitate the purely practical views of the savage, or those effete nations whose ambition is dead and whose efforts are confined to a mere struggle for existence.

The only method of reaching great practical eminence in a profession, as everywhere else, is to raise the mind by systematic training to a point where it can view truths lying altogether hidden from less perfect vision. The mental training of the intellectual world goes on at a certain rate of progress throughout civilization, and it is one of the most interesting phenomena to notice in the history of mind, how certain truths have been hidden until the intellectual progress of the age has laid them bare, and they have then been exposed by minds far remote, simultaneously, without intercommunication. I have but to refer to NEWTON'S Fluxions, and LEIBNITZ'S Calculus. In our own time, the simultaneous demonstration of the existence of the planet Neptune by LEVERIER and ADAMS, furnishes another illustration.

Now; can any one imagine that these discoveries could have stood revealed to minds which have been trained to contemplate solely the practical results of their pursuits? Could they manifest themselves to any except intellects furnished with all that science had yet supplied? And, although not absolutely impossible, where do we find examples of men who have filled themselves with knowledge, without an instructor, so as to make this science such a power as the above illustrations exhibit? A few examples of wonderful self-denying, laborious youth and manhood, like those of FRANKLIN are the only answer that history presents.

But these examples may be declared foreign to the subject. I have given them indeed only as illustrations collateral to the question. But I have given them also, because they are in accordance with the law of development in professional, as well as physical science. Who are the men whose names have come down to us from the past, and whom we know as positive existences. Those whom we know and can understand as real beings, are those only who have produced. In these productions alone we know and can understand them. All other names belonging to the past are—as men of thought—only traditions. The life of the man of action we can recal in his actual or intended services—the man of thought comes to us only through what he has created. All fame, associated with the man of thought, which does not rest upon the preser-

vation of his productions, and the sympathy of future ages with their truths, are—as I have said—traditional, and sure to perish as living things, however strong once to move a generation. Like the reputation of the actor or the singer, it becomes a mere name in time, because it has created nothing present on which our mind may dwell.

Just such has been the permanent professional fame of all uneducated men. Among the mass of lawyers with which our own country has teemed, where do we find those who have added to its jurisprudence? So exclusively among educated men, that an example to the contrary would be almost a phenomenon. In a land where the rewards of genius, in the shape of wealth, and power and distinction, have been thrown open to all who can clutch them, and where the legal profession has been almost a prerequisite to political distinction, how may men have left anything permanent for future ages to associate with their names? PATRICK HENRY—HENRY CLAY—men of glorious intellect, of eloquence that moved men's minds as with the gift of God's own inspiration; where do we find the results of their labors, except as men of action. In the list of creators of the jurisprudence of their country they have no place, while others of no greater power or brilliancy of intellect, but merely superior in the gift of early education, are found in numbers. I believe that Judge VAN NESS stands alone as an example of a man who, without a collegiate education, has added materially to the jurisprudence of the State of New York.

But again, it will be said that in those days the field was open almost exclusively to men of education. The examples I have given are an evidence of the contrary. Indeed, I believe that, in the greater facilities for education, there never was a period in the history of our country, when the proportion of educated aspirants for professional honors was greater than in times quite recent.

A thorough education, which shall have disciplined, and given mental muscle to the faculties, cannot but place its recipient upon a footing of vast superiority, in his power to reflect and develop truth otherwise than from mere perception. In the undue preponderance which the self-educated, or the imperfectly educated man, gives to the perceptive functions, he will almost necessarily be found inferior to the task of ascertaining truth through mere reason—through the reflective faculties, the chief instrument in *the creation of mental products*. The mental organization must

be most carefully trained, to develop it to the best purpose. It is obvious that the studies at the age of seven or eight years, must be different, in the character of the mental powers they task, from those which are to develop the faculties at fifteen or sixteen, and, with the great mass of mankind; this latter instruction will not yet elevate the mind to the use of analysis, as a power to disentangle truth in the rugged ways of a profession. There is an age for the exercise of the memory, merely as a faculty—another period for the acquisition of knowledge, merely as facts—another for the growth of the thinking faculties, in exercising them upon the comparatively easy acquirements thus obtained in youth. When this degree of development is attained, it cannot but give a vast superiority over an equal intellect untrained to this habit of reflection by steps which make the effort easy. The statistics of professional eminence show this truth, in practice, to be just what we have claimed, *a priori*, would naturally be its results.

The truth is that education, as it is understood in academies and colleges, is chiefly needed to develop the reflective faculties. The perceptive will be very apt to take care of themselves if the senses be unimpaired, and freedom of action be allowed, and thus the child and the savage will often, in this respect, present very remarkable developments, all acquired under no teacher but nature. But nature alone is insufficient. The collected labors of the past, and the careful use of them by experienced instructors, we have seen to be necessary even to preserve the civilization of society. The education of the college we claim is that which best fits its recipient for grasping the labors of past ages, and economizing best his efforts in producing new truths. It is obvious that, although the perceptive faculties are of vast importance in mechanical invention, whose rewards are even unduly great in the present demands of our age, yet, in the discovery of truth from truths which form the lower rounds of its ladder, such as is the case in jurisprudence, it is most important to develop the reflective faculties, and to acquire the knowledge upon which that jurisprudence is founded.

There has been a singular prevalence of erroneous opinions as to the objects of education. It is very generally supposed that the *amount of knowledge* acquired at school and college is of itself great; and that in this amount of knowledge is the chief superiority of the college student. In ancient times, when mere *learning* made a man famous, there might have been some grounds for this belief

but in the great extension of liberal education, it now has very little truth. The amount of information which can be communicated by the regular instruction of a four years collegiate course, is small indeed in comparison with the vast resources of knowledge which must remain untouched. The failure to recognize the real object of collegiate education has led to bitter controversies respecting the usefulness of classical as compared with scientific studies. These controversies still continue, without result, because those who wish to substitute useful knowledge for what they call unprofitable drilling, do not realize that the comparative merits of the classics and of science, as studies, depend in their influence upon the student, not upon their comparative *utility*; but, as was well expressed by Mr. PATTISON in his Oxford Essays—"upon the comparative fitness of the two subjects to expand the powers, to qualify for philosophical and comprehensive views."

It is needless to cite studies which give no information, but yet are preferable in certain stages of the mind to others which convey useful knowledge. The arguments justifying these studies will apply directly to the necessity of collegiate education as most serviceable, and even necessary, to the development of faculties through which alone can superiority be obtained in a profession.

Some think that knowledge of the law is to be acquired solely by practice, and would hasten the admission of a student to the bar, in the idea that his progress will be much more rapid as soon as he stands upon his own responsibility. Here again, we have a remarkable refutation of this style of reasoning, in another profession whose workings have been so remarkably brought home within the last few years, that I cannot but impress the illustration into service. In military operations, I take it for granted that the perceptions play a more important part, as compared with the reflective faculties, than in the law. Within the last few years, thousands of officers have been developed from intelligent and even gifted material,—men of the highest business and literary training. But where is there one who has risen to the highest grades, and whose name shall live in history as a power in the conquering of the late rebellion, except from that class who have had the advantage of a first rate military education? Experience in war alone, will, only in the case of absolute genius—genius such as appears but once or twice in a century—make a great commander. In like manner, that lawyer goes into the contest with great odds against him, who *thinks that mere experience in the practice will put him*

upon an equality with those who have, as a preparation for its analysis, trained every mental faculty to grasp its principles without an effort.

But all this is mere warning to the aspirant, and I do not, of course, expect him to be influenced by it. He may say that, as he is to pay the penalty, he may be allowed the experiment, and that no one is the loser who has a right to complain. But has the profession no right to complain when it sees the standard of excellence lowered by this licensed irruption into its precincts? Here again, I shall use no argument. If any lawyer of twenty years practice will assert that the standard of professional eminence is as high now as when he was admitted to the bar, I will admit that I have been presumptuous in my assertions. But I have no fears of being called to any such reckoning. I must pass lightly over the argument drawn from the lawyers of our country composing its legislatures. One would think a sense of this responsibility sufficient to present the necessity of a knowledge of History, Political Economy and the Science of Government, as prerequisite to any profession from whose ranks the legislators and the statesmen of our land are recruited. But I have no space now to pursue this branch of the subject.

One word, however, must be permitted me in behalf of the easy access to colleges. These are eleemosynary corporations, and a very large proportion of the expenses of the student are paid by the college foundation, or its endowments. The expenses of college tuition, where this is not given gratis, bear but a small proportion to the amount demanded by academies and female seminaries, where a full equivalent is required from the pupil for the teacher's services. The dormitories are the property of the several institutions; the professorships are, or ought to be, endowed; the libraries are the gifts or purchases of former times, and the expenses of tuition, of lodging, and frequently of board, can be put down to the lowest point. There is but little excuse for the student who has any high idea of his art, for evading the time which should be devoted to collegiate instruction, as preparatory to professional study.

Still, for the present, I have no hope of checking the desire which young men have of acquiring a profession at the least possible expenditure of time and apparent—though not real—mental effort. So long as the laws permit access to the professions without the prerequisite of collegiate education, it is idle to expect that advantage will not be taken of the permission. The only remedy, or rather the only preventive to a further debasement of the professional standard, is to raise that of academic study until it approaches more nearly to the present standard of collegiate instruction, and if the professions be open to all, let the facilities *be increased as much as possible for fitting all to undertake those professional pursuits.*

THE IMPORTANCE OF A BETTER PREPARATION OF YOUNG MEN IN THE GREEK AND LATIN LANGUAGES FOR ADMISSION TO COLLEGE.

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THE Greek language is a miracle of perfection, the highest attainment in linguistic excellence. Copious in words; abundant in inflections; rich in particles; attuned in its consonant and vocal elements to the laws of euphony, and possessing wonderful facilities of composition, expansion, and contraction,—it is capable of expressing with marvelous perspicuity, ease, brevity, and energy, every state and conception of the human mind, acting or suffering under the varied accidents of time and circumstance; and it is no less adapted to the sublimity of epic poetry than to the sport and merriment of comedy; to the music of the lyre than to the sadness and pathos of tragedy; to the compact jointings of mathematical and philosophical reasoning than to the burning declamation of the orator. And had the ancient Greeks left no monument of their advanced civilization and culture, save their language, considered in its distinctive features, as a work of art or science, the fact would need no additional confirmation. But embalmed in this language is an immortal literature. In it the everliving HOMER sang those grand strains, which have challenged the admiration of the generations of men, as they have come up in their succession for twenty-five centuries, bequeathing to the world the Iliad, that model of genius, compared with which all other productions of the kind have been found wanting. In it ÆSCHYLUS, SOPHOCLES and EURIPIDES paid their court to the tragic muse; and exhibited her stately goings and wonderful portraiture of human actions, passions, and motives. This was the vernacular tongue of SOCRATES, PLATO, and ARISTOTLE, names which will ever be familiar to the profound thinkers of every age. Through this PERICLES, ÆSCHINES, and other great orators of Greece thought and spoke. And in it DEMOSTHENES, the soul of eloquence, the embodiment of patriotism, the personification of rhetoric; now sporting with wit and humor; now on the wing of fancy; now soaring in exalted senti-

ment, towering in sublime conceptions; now applying the subtleties of logic, and combining mighty arguments, and concentrating all the fires of his genius to hurl them with the thunders of his eloquence against his adversary; the perfect orator, found a ready response to his every requisition, nor yet exhausted its illimitable resources. Fortunately many of the orations of this prince of Grecian orators have come down to our own times. More than twenty-two centuries have rolled away since they were first spoken by their renowned author; and the world, in the meantime, has made some progress in civilization, in the arts and sciences; but no man in any time, or in any country, has been preposterous enough to cherish the hope of surpassing them; and few, if any, the less unwise hope of equalling them. That this orator was a man of extraordinary natural endowments, it would be folly to doubt, and no less so, not to admit that he was greatly aided in attaining his unexampled excellence in oratory by the perfection of his native tongue. If this had been the living language of all the nations of Europe for the last five centuries, I cannot believe that nature would seem to have broken her mold in forming DEMOSTHENES. He would have had many competitors closely approximating him, some equals, now and then a superior.

In the progress of ancient civilization, Greece became the central sun, from which radiated a universal light. With amazing genius the Greek applied himself to the study of art and science, law and government; and in every department of his labors he engraved the cunning of his dexterous hand; now after the lapse of twenty or twenty-five centuries, we read the inscription with increasing admiration. With a spirit free as the zephyrs on his mountains, and restless as the ocean waters, which lash his shores, he encountered every branch of knowledge with a skill and energy which no obstacle could withstand. With limited resources, in the midst of social distractions and harrassing wars, he forgot not his destiny, he slumbered not; but with heroic fortitude and undimmed heart he pressed on in the rugged paths of science and art, bequeathing to his country enduring glory, and to the world encouraging lessons and examples of wisdom. Two of the greatest thinkers that Germany has ever produced, KANT and HEGEL, acknowledged that, from the time of ARISTOTLE to their own age, logic had made no advancement; and how much has pure geometry progressed since the time of EUCLID? This great geometrician was at the head of a school in Alexandria three hundred years B. C.,

and he has been teaching ever since. Who, that has the slightest knowledge of even the rudiments of geometry, has not heard his name? Who, that has drunk more deeply in that clear fountain of wisdom, opened by his genius, has not been charmed by the profoundness of his research, and the perspicuity of his illustration? It is difficult to estimate the influence of such a teacher on the destiny of mankind. As we contemplate the immortal NEWTON grasping the grand key of the universe, and unlocking to the astonished world the laws governing the motions of the starry hosts, as they in silence wheel in their endless circles around their fiery centres, and striking the organ of nature, whose deepening tones, as the music of the spheres, inspire the inmost soul of man, and widen and intensify his action, we almost involuntarily award a portion of the glory given to the great Englishman, to his old Grecian master. I ask not that the ancient Greeks be regarded as infallible in their teaching; but, if they penetrated not, at all times, into the very sanctuary of truth, they at least opened the outer portals thereof, and explored the mysteries of thinking. Like PROMETHEUS bound on the cold Caucasian rock, they struggled by the pure fiat of thought to sunder the cloud of darkness, lowering for ages, and come out into the open light; and their works still remain to admonish us of the power of the human mind, when all its capabilities are earnestly engaged. As the tree of life, seen in prophetic vision by the revelator of Patmos, their labors are yielding their fruits every month, which are regenerating and invigorating the intellectual life of the nations. We solicit, then, for the Grecian language, so perfect in itself, and so rich in its literary precepts, a decent regard.

The Greek and Latin tongues are cognate; and may, perhaps, be regarded as sister dialects, with the Sanscrit, of some language not yet known. They possess many features in common, many words of common origin, striking likeness in their declensions and conjugations, and marked similarity in structure; and the more critically they are examined and compared, the more clearly their relationship appears. Certainly, they are too close in their affinities to leave any doubt that they were constituted on the same original base; and that the early inhabitants of ancient Greece, and those of ancient Italy, who preserved in the two languages their leading and most distinctive peculiarities, were one people in race. But the ethnography of these two peninsulas is still involved in much obscurity; and we shall need to exercise endur-

ing patience before the growing light of ethnology and comparative philology may become sufficiently luminous to enable us to discern all the causes, aside from the physical and intellectual habits and pursuits of each people, which conspired gradually to create out of a common language two divergent branches of speech. But the language of PLAUTUS and ENNIUS, of CATO and VARRO; that in which VIRGIL displayed the beauties and perfections of rural and pastoral poetry, and expressed the inspirations of the heroic muse, in strains swelling in full symphony with the immortal songs of HOMER; in which HORACE responded with exquisite grace, in ever-changing numbers, to all the fancies of the fickle goddess of the lyre; in which the historian found copious means to illustrate, with consummate skill and art, the mighty achievements of the Roman people, in peace and in war; in which were eloquently and lucidly expounded the subtle principles of Grecian philosophy, in prose and in verse; in which LUCILIUS, HORACE, JUVENAL, and others, wielded, with matchless skill, the keen terrific sword of satire; with which CICERO, lighted up with the ardors of his genius and eloquence, charmed and swayed the Roman senate, and chained the mad passions of the forum; and in which he recorded those orations, admired and consulted by renowned orators of many generations; and in which QUINTILIAN has exhibited the perfections of rhetoric, and taught the philosophy of oratorical education; shrine of Roman thought; sacred guardian of her literature and learning, which escaped the rude and destroying touch of barbarism; of ancient descent; sister of the Greek and Sanscrit; mother of the Romance languages; source of enriching supply to our own tongue; our constant companion in study and in speech; the ally of all our arts and sciences; shall we not respect it? and is it not worthy of being thoroughly studied?

Expunge from the English language the Greek and Latin elements, with which it abounds, and English literature would be reduced, if not to a nullity, at least to a complete nudity; and the language of our arts and sciences so robbed of all its leading characteristics, as to leave nought but deformity and ruin; for the technical part of our speech is, to a very large extent, derived from these sources; which evinces how fully we have drawn our ideas through these great arteries of wisdom, which, for centuries, have been pouring their enriching and vitalizing streams through the *nations* of the earth. In our natural sciences, in the science of *medicine and theology*, and in our jurisprudence, are the same

manifest marks of antiquity, the same evidences of our obligations; so that some acquaintance with these languages is regarded as a necessary prerequisite to the successful study of the learned professions. Indeed, we scarcely utter a single phrase, or short sentence, without meeting some word or more once the property of the Greeks or Romans. So interwoven, commixed and diffused are the elements of the Latin with the Anglo-Saxon elements, in the constitution of our language, that a thorough understanding of the latter, fairly implies a liberal knowledge of the former. Would the rhetorician, the historian, the poet, the orator, the divine expect to fathom it, sound it in all his depths, measure it in all its strength and power, and draw forth all its capabilities, without first penetrating into the mysteries of the ancient classics, and drinking largely of their stimulating essences? Their words, and some of their structural peculiarities and idioms have been remoulded, and thus incorporated into the texture and very framework of our speech, and made to constitute a portion of the substance and body of it. Because these exist in our language in such a way, as to compose an essential part and quality of it, of which it cannot be divested without, at the same time, being destroyed as a speech, we claim that they should be studied in order to a full comprehension of our own. Again, the ideas of the Greeks and Romans, their literature and learning, are so profusely mixed in the composition of English literature, and so pervade it that, whithersoever we turn in our literary pursuits, we meet intelligible signs of their ancient life and power, their wisdom and aesthetic glory. Here is an allusion to some of their customs and usages, full of associative significance, reviving in the mind of the classical scholar a thousand refreshing recollections and quickening emotions; these beautiful creations of some ancient poet, which, though admirably adapted in their new connections, and forming a fit part of a symmetrical whole, still betraying their proud original; here certain modes of expression, though gracefully blending with modern taste and genius, yet bearing unmistakable marks of age; there a feature almost undefinable, only dim and faint traces of its primitive character remaining, still not less effective in recalling the real images of the past, and transporting us in our imaginations over the realms of older activity and achievement. As the features of a friend of our childhood, seen in a picture, so changed by age and the trials of life as to be scarcely recognizable, often awaken in the silent repositories of

the soul all the scenes and experiences of our early years, painting them with such freshness and truthfulness, that we seem, for the time, to be carried back to them, and to be living them again; and the peculiarities and features of classical literature, spread over the whole era of English letters, in all its varied colorings, tints and shades, dimly or distinctly seen, are constantly bearing us back over the fields of olden civilization, literature, art and science, thus widening our intellectual and moral vision, expanding and fertilizing our minds, and fitting us for greater usefulness and enjoyment in the present.

In the invention of the art of printing was discovered the vehicle, by which the languages of the Greeks and Romans, the literature, laws, arts, and institutions, were to be borne on the extended mission. Many monuments of art and learning in the classic lands had been destroyed in the ruin accompanying the march of vandalism; but many still remained, and much have they accomplished in molding the literature and character of the succeeding generations in Europe. SPENCER, SIDNEY, BACON, SHAKSPEARE, JOHNSON, and all that brilliant constellation of authors, who wrote between the years 1675 and 1725, and who illustrated the reign of ELIZABETH, took counsel of the masters of prose and verse, who had written in the Hellenic and Latin tongues. England's great men for more than four centuries have drunk copiously from classic fountains. Her historians, poets, lawyers, orators, statesmen, and divines, who have exalted the honor of the English name, shed a brilliant lustre on letters, nobly served our common humanity, and won for themselves undying fame, owe much to their ancient teachers. And the Germans, no less than the English, have ascribed much importance to the study of these learned languages; and their eminence in philology, in the natural sciences, in philosophy, and in every department of learning, evinces the correctness of their judgment.

Again, the advantage of studying these languages may be seen in the extensive affinities and relationships which they sustain to one of the great families of language, in which is contained much of the literature of the world. For the accomplishment of the higher purposes of philology, a knowledge of them is indispensable. In the roots of words are the footprints of the nations; in them are embalmed their physical and intellectual habits, their morals and religions; and the more discriminatingly they are inspected, the brighter is the light emanating therefrom to illumine

the dark pathways of humanity, unreached by the rays of history. One hundred years ago, nobody imagined that the ancient Greeks and Romans were related to the Indians of Asia; but the discovery and study of the Sanscrit language by Europeans, have not only revealed that fact, but have shed a flood of light on the ancient and modern nations of both continents. The Sanscrit, the Greek, and the Latin are now regarded as sister dialects of one language; and to these the Teutonic language, in all its dialects, divisions, and subdivisions, is closely allied; so also the Slavonic, the Celtic, and others. Thus, in the roots and forms of words, and in the structure of language, we read the kindredship and lineage of the nations; and learn their modes of life and action. No one doubts, that the so called Romance languages, the Italian, Wallachian, French, Spanish, and Portugese are intimately related. Every body knows that they were all derived from the Latin; hence it is easy to see, that not only the study of them is much facilitated by a knowledge of the mother tongue; but that they cannot be thoroughly understood without it. Comparative philology has become a science of great consequence. It is achieving wonders in the world of letters, and bringing to light many things of olden times, enacted before the dawn of the historic period of our race. It is not especially a money making business, still it has its revenues; and we may rejoice that not all men, even in this country, in which gold charms as much as in any other on the face of the globe, have been befooled into the notion, that the soul of man is, in some way, venal, made under a financial contract, and destined to extinguish its ethereal fire in the pursuit of wealth. Let HOMER, NEWTON, and their great coequals of every age, in genius and wisdom, live with ever brightening glory; because they have left clear and ineffaceable evidences of the amazing power of the cultivated mind, to bless mankind through unnumbered ages. Let CRESUS live to proclaim the inconstancy of wealth, its insufficiency to satisfy the longings of the human soul, created with vast and ever increasing capacities for knowledge, and for happiness in its possession.

It is not my design to utter any encomium on the classic languages, or on classic learning; but simply to intimate that, if their practical bearing and utility should be fairly appreciated, we should not want sufficient incentives to greater care and diligence in preparing our young men to estimate and possess whatever of advantage they may bestow.

There is another phase of our theme worthy of all consideration—the disciplinary value of these languages.

As the human mind grows by the proper exertion of its own faculties, and strengthens by the prudent application of its own strength, that branch of study or science, which most effectually involves the equal and healthful action of the most of its powers at the same time, and which tends to the greatest practical utility, is better adapted than any other to the symmetrical and vigorous development and culture of these powers; and consequently be suited to subserve the purposes and ends of youthful training.

Let us take a boy ten years old or more, and examine his language course of education in preparation for college. He commences with the Latin, spends a week or two in learning first principles; then follow the declensions of nouns and adjectives and the conjugations of the verbs. Here is a work for the active and persevering exercise of the memory. A multitude of forms are to be so fixed, arranged, and classified in the mind, that they can be instantly recalled, distinguished, and associated without perceptible effort. This cannot be done by fitful or occasional trials; earnest persistency makes it feasible. As the alphabet of our native tongue is imprinted on the memory, ever ready for use, so the inflections of Latin words are to be impressed there, that at the sight, utterance, or recollection of one form of a noun or verb may, at the same moment, associate all its forms. In pursuing this elementary labor, the student will be forcibly admonished of the utility of orderly arrangement in his new possessions, and aided in cultivating the habit of methodical study. When this work is fairly begun, he undertakes the reading of short sentences to learn the use and application of the knowledge which he has already acquired, and to be encouraged in his pursuit. He has now, at least, a noun and a verb to be considered in their mutual relations. Their definitions are to be learned, their number noted, the noun to be brought under its proper declension and declined, the verb referred to its conjugation and conjugated, and the rule of syntax applied. In this process there is a review and confirmation of previous knowledge, and a little addition made thereto. From simple sentences, he is led to those more complicated, in which all the parts of speech, and some of them in their varied forms, are embraced. Here again his work is augmented. The words must be defined singly, their inflections critically noticed, their structural connections inspected, and

grammatical rules given ; all implying a review of preceding steps, and much service of the memory. In reading such a sentence, there is an operation of the mind, comprehending all the attributes of logical reasoning ; as, memory, association, discrimination, comparison, combination, and judgment. In a word, the premises are given to be examined and a conclusion to be drawn therefrom. And it is not unfrequently the case, that individual sentences present obstinate difficulties, requiring much discrimination and sagacity to unravel them. He is next advanced to the reading of sentences in discourse. Here the science of language and the whole field of interpretation is thrown open to him, in which little is known, and much is new and intricate. But luckily the obstacles exhibit themselves, in a measure, individually ; and so less formidably. Each sentence, requiring to be read as in the former instance, affords an opportunity for a partial victory, in which the boy's spirits are enlivened, his hopes brightened, his courage and his ability strengthened for a new encounter. In every onward step, he realizes an improvement in his memory ; increased ease and readiness in comparing and connecting words according to their just relations ; clearer and sharper discrimination in defining them ; enlargement of judgment for more accurate decision. After he has made a little advancement in the Latin language, he begins the Greek, and proceeds with it as with the former ; and soon finds himself in ardent struggle with the perplexities of both languages, in which he needs to summon to his aid all his capabilities. He has no faculty which may not now be brought into constant service. Memory is put upon the rack, and forced to bring to the issue all its available resources ; the powers of definition, discrimination, and distinction are rallied to the van with stimulated energy ; comparison and combination are urged to more effective action ; the judgment sits in grave and anxious counsel ; hope shouts its cheer in promises of victory. The onset is made, and the struggle goes on, the mind alternately applying and relieving now this faculty and now that, and, again, inviting them all in simultaneous co-operation ; until all move with elastic grace and flexibility in subservience to its volition. One obstacle is overcome, one barrier removed that another may be engaged with augmented force. Here are peculiarities and difficulties in construction, in the laws of syntax, and in idioms ; and obscurities in the meaning of passages, which can be elucidated only by perse-

vering study. The text and context must be compared with scrutinizing discernment; nice distinctions in the sense of words observed; delicate shades and modes of thought inspected; and history, biography, and mythology consulted. The field is very ample, stretching out in every direction, and furnishing liberal means for varied mental exercise, discipline, and culture; for when the rougher portion of the student's task is partially performed, he is invited to couple with the asperities of his labors the beauties and graces of rhetoric, the charms of poetry, the subtleties of logic, the deep investigations of philosophy; for these are displayed with profusion and variety in these languages. Thus his literary taste is cultivated, his reasoning powers educated, and his morals improved. In the critical and thorough study of the classic languages, the memory of the student, being ever on the stretch, is necessarily strengthened, and his suggestive and inventive faculties quickened; for he is continually entangled in perplexities urging him to have recourse for deliverance to every expedient that his genius can suggest or invent. He is ever comparing and combining thoughts, and must, therefore, acquire in this great facility. Reason, too, has its endless work. If his ambition languishes, he is reminded, that he is on the way which has conducted thousands to greatness and fame; if his imagination is dull and inactive, his young spirit may be touched with a live coal from the altar whereon HOMER and VIRGIL sacrificed; if his discrimination is feeble and obtuse, by what agencies can it be more effectually vitalized and sharpened than in the constant endeavor to discern nice differences in the signification of words, in order to arrive at the precise meaning of discourse? if his mind is narrow and contracted, will it not acquire breadth in the spacious field of interpretation—the field of its daily labor? if flexibility is wanting, will not the countless items of thought, to which his attention is so incessantly solicited and the ceaseless resorts for the resolution of knots and complications, develop the desired pliability?

But the prudent study of the classics does something more than train and symmetrically unfold the mind; it imparts to it happy directions and tendencies. As the young eagle, having used and strengthened its pinions in short excursions from its mountain aerie, now impelled by the instincts of its nature, strikes its expanded wings for higher and wider flights through the ether fields; so the youthful mind, formed by classic discipline, and stimulated by classic learning, longs to sweep over the broad

realms of letters, not only to pluck fruits growing from classic roots in alien soil, and to drink full draughts from gushing fountains of classic flavor; but to gather intellectual treasures from every mine. A love for learning has been created, and an enlarged capability for its acquisition. Has any mathematical teacher found the classical student faltering in the exact sciences? What department of his mind has not been invigorated for rapid numerical calculations, for demonstrative reasoning? What branch of the natural sciences does not his language-education enable him to comprehend with greater facility? Will he not also more readily and ardently lay hold of the principles of rhetoric, logic, and philosophy, and how will his taste and ability for the science of language have been affected? It is next to an impossibility for a young man of good talents to devote himself wisely to the study of the Greek and Latin languages, for four or five years, without attuning his nature to the philosophy of language; hence literary men, men of all professions, especially needing dexterity and skill in the use of language, have, for centuries, set a high value on classical education. Can a divine be found, imbued with classical learning, who will not unhesitatingly acknowledge its importance, its utility? He feels his influence in its labors of exegesis, in his diction, in his style of speaking and writing, in his literary associations and aspirations. And can less be said of the lawyer, the poet, the journalist, of literary and professional men in general?

If it be desirable to create in a young man an ardent love, burning aspiration for learning; to establish in him the habit of correct systematic study and investigation; to cultivate in him a good literary taste; in a word, to develop and discipline with symmetry all his intellectual powers; to put them in such a condition, to engender in them such tendencies, that he may be enabled to work most efficiently and successfully in any department of mental labor in life which he may elect, a thorough, liberal, and judicious training in the Greek and Latin languages, in preparation for admission to college, will not, cannot fail to operate most potently and directly to this end. The history of preparatory education in Europe and in this country confirms our convictions; and certainly the judgment of a host of profound scholars and wise men of different nations, vindicated for several centuries, and sustained by the incontrovertible evidence of experience, cannot be rejected but by *opposing* authority of no ordinary weight.

In stating some of the advantages arising from a proper training in the Latin and Greek, I have not intended to intimate that much precious time may not be wasted, nay, more than wasted, in studying these languages. I have not designed to hint even, that they may not be studied in such a way as to choke the energies and perceptions of the youthful mind, involve it in utter confusion; destroy its confidence in its own abilities; contract its views; stagger it in its efforts; extinguish its love for learning, and blast its literary hopes.

In our nationality we are young, and restless and hurried as we are young. The spirit of impetuosity and unrest pervades the whole body politic. The vast natural resources of our country, and our free institutions, have opened to all classes and conditions of our citizens such broad fields of enterprise, inviting to activity, wealth and honor, that we have been tempted to excesses. We walk, when it would be better to stand still, and we run when it would be wiser to walk. We wish to do in a day what can only be well done in a week. We are impatient to see results as soon as they have been conceived in the mind, without waiting a reasonable time for the application of the proper agencies to produce them. We are distrustful of those principles of philosophy, which have been thoroughly tested by the experience of ages. We seem to delight in inconsistencies. We know that men cannot become wise in a day; still expect more of a boy than could justly be claimed of a man of full maturity. That a boy should be engaged three or four years in studying the Latin and Greek in preparation for college, in this age of steam velocity, is indeed a little startling. His friends already see professional honors looming up in dazzling splendor, or tempting opportunities to embark in lucrative trade; and shall the poor boy, under such circumstances, be compelled to pass through the slow and painful ordeal of studying the dead languages four or five years before he can be admitted to college? Why may he not be hurried over this course more in accordance with the spirit and usages of the age, and finish in a shorter time his collegiate career, and thus sooner begin his professional studies, or engage in business? With the same propriety might be asked, whether he should wait to secure any discipline, or a liberal culture; for this rushing course is little better than nothing, sometimes even worse. Has the experience of ages fallen on us making no impression? and are we still to learn that the immortal mind, which we are bound in duty to ourselves, our country,

our race, and our God, to educate, is subject to certain laws of development and discipline, which cannot be wrested into a conformity with all the freaks of fancy, and the mad aspirations of ambition? If I felt that academic teachers were altogether answerable for the deficiencies in the preparation of young men for college, I should refer to it with much delicacy and misgiving; but the fault is here only in part. It is this unnatural haste, characteristic of all our enterprises, as a people, which pushes our young men into college before they have had time to take the prerequisite steps. Certain limitations in quantity are written in the catalogues of our colleges, and time to meet the requisition *well* is not allowed; hence the only alternative remaining is to urge on the student in utter confusion, leaving him no opportunity to fix in his memory the inflections of the words, the words themselves, or the grammatical principles of the languages. As a steam-car is driven impetuously through a district of country beautiful in its edifices, and diversified with the charms of natural scenery, with hills and valleys, meandering brooks and deep-flowing rivers, fertile meadows, and extended woodlands, fruitful orchards and vineyards, confounding all objects in one indistinct picture; nor permitting the eye of the traveler to rest for a moment on any one thing, nor to establish in his mind any landmarks whereby to retrace his journey, or review the ground; so the student in his preliminary education, is not unfrequently driven through the beauties of the classic languages with such haste and disorder as to leave no permanent impression of them on his mind. In the midst of beauty, he discovers nought but deformity. What would otherwise serve to render his memory tenacious, his perceptions quick and acute, refine his taste, mature his judgment, and invigorate all his mental powers, becomes an insupportable burden, inflicting absolute injury. But conceive him at the end of this dark and gloomy preparatory path. He enters college, and is it light and pleasant there? He is in a sea of trouble and painful doubt. Which way soever he turns, bewildering mists and fogs arise. He cannot retrace his steps and begin anew; the period for a complete outfit, for such a beginning as could not have failed to ensure a delightful progression and successful issue is past. The Greek and Latin grammars might have been made agreeable, or, at least, tolerable, when he began the reading of the languages; and when he should have been admonished at every step of their indispensable importance; but *they have been so crammed into him, that his intellectual*

stomach has utterly failed to digest their principles, or to retain any thing more of them than faint traces of their existence. He has stumbled along for two or three years, and thus contracted the habit of limping and blundering, which clings to him as its victim, and often forces him, in spite of himself, to pursue a course inevitably leading to disaster, if not to ruin. The period for preparation has been spent and no settled habits of methodical thinking formed; nothing has been done thoroughly, nothing critically, nothing with exactness; and the custom of careless, rambling study has, at all events, struck its poisonous roots of two or three years growth into the very nature of the student; and now being in college, what is he expected to do, but to proceed as he has begun, learning and unlearning, advancing and retreating—plodding in an endless round of confusion and uncertainty, employing more time and labor, and often in vain, to disenthral himself from the bondage of pernicious habits than in making real progress in knowledge. His collegiate course is not reduced to a preparatory one; it cannot be; but it is sadly impeded, and often ends in discouragement, and in an incurable disrelish for all severe intellectual labor. So he leaves college with an argument grown into his very being, against the utility of classical studies, and often of others as well. He has tried them himself, and seen, and sorely felt their utter futility. His literary career has thus early come to an end. He has been voyaging on an unknown ocean, with broken compass and deceptive chart, with tattered canvass and leaky ship; where he has been now tossed and distressed with storm and tempest, now becalmed and befogged, now threatened with quicksands and breakers—at the mercy of chance ever. At length he has reached a shore, and it is not strange that he should look back with a little dread; that he should not be zealous to encourage his friends to embark on the dark waters. His labors, academic and collegiate, have been irksome and exhausting; they have left him living without life. Not more than one to twenty of all the young men who graduate in the colleges of this country, continue to interest themselves in classic studies after the completion of the academic curriculum. The practice of professional men all over this land will corroborate this statement. They have not been educated to esteem them of any practical advantage. There has been now and then an honorable exception. Mr. WEBSTER was known to cherish a high appreciation of the practical utility of the classics. Mr. EVERETT

and Mr. CHOATE were both accomplished Greek scholars; and the latter never ceased to read HOMER in the original while his life continued; and I know of a few professional men, not teachers, in this and other states of the Union, who have been accused of the folly of enlarging their classical learning after leaving college; and what is marvelous in the case, they have invariably shown strong evidence of the advantage of indulging in such folly. This outside work has enabled them to do more inside work, and to do it better. In England, we find a very different state of things. Her great men, as before observed, for more than four centuries have been remarkable for their classic culture. Her statesmen, amid the pressing responsibilities of the highest offices of the realm, have found time to be refreshed with the amenities of ancient literature. Nor is there at the present time any indication of a distrust in this practice, or a departure from it. What has been regarded, in the past, as meriting so much admiration and attention, is still esteemed worthy, is still pursued with quickened zeal and earnestness. Mr. GLADSTONE, one of England's great and brilliant men, within a few years, while charged with the onerous duties of chancellor of the exchequer, has published three large volumes on the writings of HOMER and the Homeric age, in which he displays a very comprehensive, critical, and familiar knowledge of the Hellenic tongue, character and customs. Still more recently, we have from the pen of LORD DERBY a literal translation of the Iliad, in verse, which, if it be at all wanting in the spirit of poetry, evinces a clear perception and profound understanding of the great original. I mention these honored names to indicate how these languages and their literature have been, and still are estimated by those fully competent to judge of their merits and utility; and if the experience of five hundred years, and the judgment of wise men, drawn from observation and experience, may not constitute satisfactory testimony in their favor, I know of nothing more conclusive to be offered. If any nation in the history of the world has been blessed and honored by her learned men, her authors in every branch of literature and science, and her statesmen, England is that nation. Nor has any nation done more to establish and disseminate equitable principles of political economy than has England. But her institutions of learning have been the potential agencies in the production of these beneficent results; and I leave the history of her preparatory schools, her colleges, and universities to illustrate how much

significance she has ever attached to the study of the Latin Hellenic languages. She has never ceased to use assiduous care in the preliminary training of her young men in them; thus has she created in her young men, at the beginning, an abiding love for liberal cultivation; and the consequence speaks for itself. England is not our friend, we have whipped her too often. She has insulted us in the day of our trial, in our domestic struggle, which we have just concluded with so much glory in reaffirming, and more permanently establishing the great principles of political and individual liberty; but let us not forget, or undervalue her grand achievements in art, in science, in government. But we Americans demand something eminently practical and useful; and who has any right to complain of us for this? But what is practical and useful? In education, I understand it to be that which best prepares a man to fulfil the high duties and responsibilities of life. The study of Arithmetic, Algebra, Geometry, and Trigonometry, is useful; still a man can hardly solve all the problems of his destiny by numerical calculations, by lines and angles, sines and co-sines, tangents and secants; nor does the solution proceed from the chemical crucible, geological research, or astronomical laws. All these sciences are practical, and eminently useful; but what in them is most practical and useful is often entirely overlooked—their general influence on the mind, their forming, refining and invigorating efficacy. As the gymnast, in his disciplinary practice generates in his body muscular strength, which may now be applied in other exercises as well as in gymnastic; so the student, in pursuing these sciences and others, engenders in his mind intellectual force, which may be employed, not only in what is ordinarily termed the practical application of these sciences, but for other purposes as well. It exists now as a force, independently of the means by which it was acquired, and may be used in a diversity of ways, as occasion may require. As the principle of the lever in mechanics, though always the same in its nature, is susceptible of numerous modes of appliance; so mental force, in whatever particular way derived is capable of being appropriated in a great variety of directions. Thus, whatever best disciplines the mind and imparts to it the most intellectual and moral force, is, on the whole, the most practical and useful. The great mass of mankind work by borrowed strength; they follow rules and principles wrought out by the educated few. The scholar may not himself use all hi-

knowledge in practice; but he should be a light and a source of **strength** to the many. All his wisdom and power may thus be **used**; not a whit of it need be lost.

GALILEO discovered the sun to be the center of the solar system; **and** thus made known a great central truth; and the bigoted pope **imprisoned** him for it; but how grandly practical has been the **grand** discovery. When the immortal **FRANKLIN** was plying all **his** energies to solicit the electric spark from heaven, I have no **doubt** that his good neighbors thought him spending his time in **vain**. How foolish for a man to be playing with a kite. Why not **do** something practical and useful? Little did they apprehend that his clear, disciplined mind was revealing a principle that would in some future day thrill the whole world with its practical influence and utility. It requires sometimes the lapse of centuries to make the practicability of great truths tangible to the mass of mankind; and often civilization advances through agencies, which are discovered but by very few persons. Wise men study truths in their more extended relations, and thus detect their wider practical usefulness, which is concealed from the generality of mankind, who satisfy themselves with what appears on the surface. Let us, then, educate our young men with carefulness and thoroughness, knowing that we shall thus more effectually increase their intellectual and moral power; and so better prepare them for the practical duties of life. **Mr. GLADSTONE** graduated at the University of Oxford with the highest honors; and he has nobly served his country with his great talents and acquirements; because he was properly qualified at Eaton, for Oxford; and at Eaton and Oxford, for the service of his country. **Mr. WEBSTER** always considered his training in Exeter Academy as of more advantage to him, in the labors of his life, than the education which he received at Dartmouth College. By general consent and **the** concurrent voice of those best qualified to judge in the **premise**s, the Greek and Latin languages have been made the prominent studies in the work of preparation for college. Although other branches cannot be neglected without serious loss; still, as the study of these languages is presumed to have a peculiar fitness for mental discipline; and as they are usually begun to be studied when the mind of the pupil is in a very impressible and formative state, the manner in which they are studied becomes a matter of primary interest. Any want of thoroughness, care, method, or *aptness in teaching them*, is disastrous in the extreme. The

young man is here molded and attuned, in no inconsiderable degree, for the part which he is to play in the future of his life. The collegiate course should follow the academic as a continuation and enlargement of it; but in such a way as to produce no derangement in the intellectual habits and tendencies formed in the latter. In a word, the preparatory training should constitute the firm and stable foundation, and the succeeding work should be erected thereon so as not to displace a single stone in it. If there must be defect in any part, let it be in the superstructure, which can be repaired without demolishing the whole building. I do not hesitate to utter my deliberate and matured convictions, which I believe to be established in reason, that more importance should be attached to the preparatory than to the collegiate course of study. I mean, that the destiny of the student, and of the world through him, is more affected by the preparatory course. A failure in this is wont to be so fatal, so irretrievable, that no pains should be spared to avoid it. And I shall now be permitted to say in plain English what we all know, that it is not unusual in this State, to say nothing of other States, to send students to our colleges very imperfectly qualified; and that in this condition they are admitted to our colleges. I have ascribed a part of this fault to the state of the times; the rest, gentlemen, we teachers are responsible for; and it is high time to wash ourselves of our guilt. Until this shall be done, our academies will languish, and our colleges breathe sickly. The voice of our colleges and academies should be one; our interests are one; we are mutually dependent; and on our prosperity depends the success of the cause of education in this State. And shall we permit this State, a glorious empire in itself, to fall behind any other State in this Union in its institutions of learning? I am unwilling to institute comparisons between the academies and colleges of this State, and those of New England. It is well, however, for us to inquire what we are, and how we stand; but better to resolve what we will be. Our common schools are improving, are doing well. Let the spirit of progress and reform pervade all our literary institutions. It is manifestly conducive to the advantage of our high schools and academies, educating students for college, to retain them until the work of preparation is thoroughly done; and the good of our colleges requires that they should do this; and what is more, the good of the student and the cause of education demands it. Let us, then, work together, as one man, to the

grand issue of perfecting our institutions of learning; and thus nobly labor to promote the intelligence and happiness of our people, and the welfare and glory of our commonwealth. Let us consult together in frequent convention, and look our deficiencies manfully and sternly in the face; then devise and apply what remedial means may be in our power. We complain of our preparatory schools, that they fail to do their work well, and to do enough of it. Shame be on us for such a complaint. Why not rather first allow them a privilege of doing what we blame them for not doing; and then, if they fail, refuse to accept their work, and refuse with pertinacity? As long as their students are admitted to college with imperfect preparation, they will be obliged, in spite of their objections, to yield. If the door is left freely open, of course, it will be freely entered. In my opinion, if any charge be made, it should be reversed. The academies, in right, should complain of colleges for wresting their work from their hands before they have had time to finish it. But unanimity is better than discord; co-operation, than complaint.

It is true, that comparatively few of our young men acquire a liberal education; but such as do, are expected to fill important positions, and to exert a molding and leading influence among their fellow men in every department of human activity; and to be sources of intelligence to the people; hence whatever means and instrumentalities may most contribute to their perfect development and discipline must be regarded as of vital significance. We look to our schools—our literary institutions, for the accomplishment of this object. If the character of our people is in a great degree to be modeled by their forming efficacy, and their intelligence to be drawn therefrom; if here the doctor of medicine, the lawyer, and the divine are to be imbued with the spirit of learning, and to receive their preparation for professional excellence, usefulness, and distinction; if here the muses, allured by classic halls, are to pay their early visits to our poets; and here the historian is to make his first survey of the broad field of human actions and motives, and the world of letters; if here the man of science and philosophy is to be trained for earnest and searching disquisition, and profound conceptions; and, if here, too, our legislators and statesmen are to acquire their early discipline, and lay the foundation for those exalted attainments in wisdom and the principles of justice—for those liberal and comprehensive views of the legitimate claims of humanity; fitting them to become the

just guardians of the laws of a mighty republic, and conservators of its prosperity and honor at home and abroad, the responsibility of those supervising our institutions of learning, and those engaged in teaching, is too momentous, in its relations and bearings, to be assumed without sentiments of deep concern. If our system and methods of education can be improved, our duty is plain and direct. The work of reform should be commenced with the least possible delay.

* A DEFENCE OF RHETORIC.

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JUST now, in the formative period of our history, while as yet, in this country, our educational methods are not quite fully matured, it may do us no harm to direct our attention to some of those objections which are frequently made to the Rhetorical Art.

Not always distinctly stated, nor consciously held, and known to be easily refuted; yet they have so much power in our places of education, high and low, in our schools, professional and disciplinary, that this art of expression in words has been either altogether ignored or compelled to assume an inferior position. Sometimes these objections appear in single phrases, current forms of speech; sometimes in the apologetic words of writers and speakers themselves; sometimes in a scholarly depreciation of success gained among the people; but whether implied or expressed, these objections may be reduced to two classes: the first depreciate the nature of Rhetoric itself; the second condemn the object at which Rhetoric aims.

In order to appreciate the strength or weakness of the attacks made upon rhetoric *per se*, it may be well for us to restate as clearly as possible, the true nature of the art itself.

Rhetoric has been accurately defined by one of its masters: "the art by which philosophy and poetry are combined for a practical end," or in other words, the art through which we may effect a combination of the results of thought, imagination, and feeling, in order to accomplish a purpose.

Philosophy, systematic thought is essential to the discovery and development of truth; but only to discover and develop what is true is not the aim of rhetoric. Poetry is thought clothed in the conceptions of the imagination, or baptized with emotion, but the art of poetry only, is not rhetoric. Philosophy may discover and develop truth for its own sake; poetry may adorn that truth with the splendors of the imagination, or send through it electrical throbs of emotion, in order simply to elevate itself by its own

* This paper was read at the Convocation in 1864, but was not included in the published proceedings of that year.

conceptions, or to glow with the fire of its own feeling. But rhetoric does more than philosophy thus alone, or poetry thus alone, nay, more than both combined by themselves, for their own sake; it gives to philosophy an object, to poetry an object, and teaches how that object may be attained. And not only so, it combines philosophy and poetry, or teaches how they may be combined for a practical purpose.

In its hands, truth itself is molded into a precise expression, a clear enunciation, a methodical statement, in order that it may be clearly seen and comprehended and so impress and at last convince another mind. In its hands the current of the emotions is not checked, nor permitted to expand itself in aimless shallows over indefinite surfaces; but these emotions are so directed into their own channels, that, by their combined power, they may sweep away in floods of feeling all opposition not only, but by their sympathetic influence move many a mind to the accomplishment of a desired purpose.

Rhetoric then, is truth and something more; is poetry and something more. It holds always in its mind's eye, an object to be attained; and that object is the movement of a hearer or reader through the convictions of expressed truth, or the charms of a controlled imagination, or the sympathies of a directed feeling. In description, it teaches writers and speakers how they may combine fact and fancy so as, sometimes in a single line, to recall—to recreate objects and scenes of art or nature, and thus induce a love for things of beauty and a zeal for things of science. Guided by the hand of rhetoric, a biographer will not only analyze—analyze character and life, for the sake of its anatomy simply, but will so paint that life, sometimes by a single pencil stroke in a condensed epithet, that the man shall live again before us not only, but be an example to us, as if he were alive again. A rhetorically trained historian will not sacrifice the truth, but in the light of his imagination reveal the truth, so that the endless succession of events and characters shall be to the eye of every reader a succession of pictures. And so men shall not be individualized singly by the historian, but by that skill which rhetoric imparts, grouped in their appropriate places; and this not for his own eye, but that readers may see them as he himself. The orator in early and in later life turns to rhetoric for the method by which he may train himself, so that his every inflection, every tone, every vocal movement, every gesture, shall have a meaning. And only

by such lessons, learn them where he may, can he gain the power **to** hold the hearts of men in his hands, electrifying or subduing **them** by an effort of his own volition.

Thus every writer or speaker who is not intensely self-conscious, **all** men who write or speak to other minds, must kneel for their **earliest** and their latest lessons at the feet of rhetoric. Philosophy **will** not teach these lessons, for she dwells apart, that she may **discover** and develop, systematize and classify truth for its own **sake**. Poetry will not teach them, for she is lost in rapt contemplation of the brilliant creations of her own imagination, or frenzied with the fire of her own enthusiasm. But rhetoric, for **many** a century, has taught these lessons, by means for stimulating **the** inventive powers, by its methods of conviction and persuasion, **by** its criticism of the false and true in the work of the imagination, **by** standards of taste, by models of good writing and speaking; **by** all these and many more, authors have been taught to combine **the** systematized truths of philosophy and the imagination and **feeling** of poetry, in order to accomplish a practical purpose.

Now those who would depreciate rhetorical culture by objections founded upon what they assume to be the nature of the art **itself**, in their definition really exalt one of these elements into **the** place of three, ignoring or denying the others. They make a **monster** and call it hard names. They exaggerate a single feature **into** a caricature and then defame rhetoric by giving its name to **this** portrait of their own painting.

To some, the art is nothing but poetry, or poetry as they call it **and** as Mr. BURCHELL in the Vicar of Wakefield called it, "Fudge!" **fancies** without fancy, figures without thought, figurative expressions, poetic words without meaning, odd words needlessly odd, **gay**, conscious ornament, ornament for its own sake, elaborate forms of beauty, forms without substance; rotund periods, sonorous monotony, verbal attempts at the grand, the pathetic, the sentimental; tumid inanity, bombastic fustian, "imagery not grown up in the loom with the texture of the thought, but put on afterwards, as so much embroidery or fringe!" Texture of the thought? In the opinion of such depreciators, there is no thought, no philosophy, **no** systematic truth in rhetoric; it is all poetry and that unworthy of the name—no poetry at all; the merest verbosity, shameless **rant**, "mere rhetoric!"

Now, we may be told, no scholar worthy of the name; will **exalt** such flimsy stuff into the place of true rhetoric. Every

thinker and writer and critic knows that these are but the paper crowns and tin tinsels, the paste and pinchbeck, and corked eye brows of show without substance, "rhetorical flourishes" rightly named.

Yet we may ask in reply, why do men attach the name "rhetorical," as we have just done, and as others often do, to such false verbiage — "flourishes" well named? Dr. QUINCEY tells us, in substance, there was no room for rhetoric in Greece, when practical questions came up in the midst of earnest thinking and debating—the mental conflicts of a deliberative assembly, the war descends below words and deepens into a serious discussion about earnest things. A writer of our own, while painting a vivid picture of the state of society in ancient Rome and piling up a threatening mass of the indications of approaching disaster, gives as electrical emphasis to the statement that everywhere, throughout the Empire, in the progress of the decline, "*rhetoric supplanted truth.*" But how could this be? What antagonism is possible between rhetoric and truth, so that one can supplant the other? Rhetoric is truth and truth is rhetoric; truth combined with the imagination; truth moist with emotion; truth directed to the accomplishment of a purpose; and none the less true because so combined and directed. There can be no poetry apart from truth, for the ideal is the highest, truest, real. Neither can there be any rhetoric apart from truth, for the true is one of its essential elements. Because in a production accordant with rhetorical rule, results of the reasoning process only are given, and not the reasoning process itself, truth is none the less there. Because conclusions only are stated and not the syllogistic major and minor by which those conclusions are reached, truth is none the less there. Or let these conclusive statements be made in some other form than by the use simply of a subject and predicate bound by a copula, they are none the less true. In its national emblem, its harp, its lilies, its thistle, its lion, its eagle, a whole nation sees the truth of a proposition expressing the national character, the national hope, the national power; and this is the glory of that emblazonry. And the proposition is none the less true to every mind, because in the national emblem, it is so vivid to the imagination of every eye.

So also, many a proposition may be conveyed into our minds through the feelings of our hearts, as well as through the logic of *our heads or the* perceptions of our eyes; and it is none the less

true for that. A thought may be so transfused—flooded all over **with** passion, that not only are we mentally convinced of its truth, **but** our hearts respond, sometimes so heartily that every fibre **thrills** with emotion; and this does not make that truth false, but **all** the more true. The words may suggest to our ear but the tap **of** a drum, or a single strain of a song we've heard at home; in **the** words we may see only the wave of a flag, or the glance of an **eye**, or the flight of a bird that used to build its nest in the old **orchard** where we played when we were boys; if our hearts respond **to** what we see and hear, if we feel its meaning so that every man **of** us is conscious of a spinal quiver, is it any the less true because **pulses** beat quicker and moistened eyes flash brighter? And yet **how** many will insist that we are descending from the heights of **truth** into the contradictions of falsehood, when we affirm, as we **may** most emphatically, that is rhetoric.

Glance for a moment through the rhetorical lens at that trio of **orators** who gave dignity and glory to the eloquence of the **American Congress**, during the earlier half of the present century. **If** single epithets could be comprehensive enough for each, we **should** say that the oratory of the Carolinian was logical; that of **New Englander** both logical and imaginative; and that of the **Kentuckian** cogent and passionate.

Mr. CALHOUN was remarkable for his clearness of perception, his closeness of investigation, and the syllogistic directness and precision by which he reached a conclusion; and he carried his hearers through the same processes, in order that, with him, they might reach the same conclusions.

Mr. WEBSTER sometimes, but seldom, publicly went through the mental processes by which directly he had reached the propositions with which he carried conviction into other minds; but with a fulness of example and a breadth and clearness of illustration, he repeated and re-repeated his propositions, and the historical or political truths associated with them and bearing upon his object, until he impressed his great conclusion upon the mind of every hearer with a power approaching resistless grandeur. And this he did, not only by presenting bare propositions, variously repeated; but more frequently those incarnated by the imagination, recalling images in the names of States and battle-fields and sacred places all over the continent; so that, until our recent conflict, there was hardly a memorable spot in the land unassociated with his words.

Whatever critics may say, such was the power of his imagination that DANIEL WEBSTER might well be numbered in the list of American poets.

Mr. CLAY, unlike both his rivals, seldom or never *syllogized*, if I may say so, or if he did, his argument took the form of an enthymeme. He seized universally admitted truths, almost self-evident propositions, and lighting them up with the fires of his own enthusiasm, uplifted them like torches for his countrymen to follow. By the sympathetic cords of his nature, he drew toward himself the affection of multitudes. You remember how, with uplifted hands, young men shouted and old men wept at the mention of his name ! His own overwhelming sympathies poured themselves through his mellifluous tones and transferred the affection he inspired in his hearers for himself, to the cause he loved. CALHOUN ruled men, if at all, by logic. WEBSTER convinced them by argument, and moved them through their imagination. CLAY led them to love the truth they already believed, and to love him, its advocate, through the sympathies of their emotional nature.

Now, shall we say there was more truth in CALHOUN's logic-processes, than in WEBSTER's imaginative oratory, or CLAY's passionate eloquence ? Does the strength of an argument lie in the bare form of its presentation, and not rather in its whole substance ? Shall the bony skeleton, nicely jointed, closely-fitting in its every part though it be, yet harsh, hard, angular, say unto the form which wraps it round in beauty, giving an endlessly varied expression to its minutest muscle and most delicate fibre, and warming the dry bones into life with the fresh currents of an ever youthful blood ; shall such a bony skeleton say unto such a living temple, "I have no need of thee ?" Yet no less than this is done by those who make the rhetorical even partially synonymous with falsehood, and the logical only, truth. There is to be sure false rhetoric, as well as false logic ; but logical truth is no more true than rhetorical truth. False logic is as false as false rhetoric. Nay, more, the deductions of a strict logic applied to the practical affairs of life, will be found more frequently false than the conclusions of rhetoric. The falsehood of JOHN C. CALHOUN is all the more damning to-day, because through the channels of a strict logic it reached the convictions of a semi-Celtic race—a race, like their French fathers, ready at any moment to run a logical, theoretical truth out into a practical falsehood.

The truth of DANIEL WEBSTER is all the more true, because his

broad arguments, so full of moral force, were made to live in the eye, and through the heart to move a nation whose bayonets flashed with his truth and whose cannon resounded with his ideas.

Rhetoric every where, is all of logic and much more. It is logic vivid, brightening, enlightening; logic on fire, melting; logic suffused, tenderly moving; logic passionate, exalting. Rhetoric is not falsehood, poetic or passionate; it is systematized truth combined with imagination and feeling, for the accomplishment of a purpose.

But there is a second and more numerous class of objectors to the rhetorical art. These do not found their objections upon what we think to be a mistaken conception of the nature of rhetoric itself; but they condemn the object of its aim. They believe it to be wrong thus to combine even philosophy and poetry if it be done for a practical purpose. In their sight, the achievements of rhetoric are worse than superficial display, words without meaning, all of which may be harmless; they are words spoken for mere effect. Philosophy is thus sacrificed, slain in the streets, merely to accomplish some immediate and perchance temporary purpose. Rhetoricians are Jesuits in books, Jesuits in speech, "justifying the means by the end." The muses are sold and chained in the marketplace, or go dancing about as hirelings to pick up pence for their masters. Rhetoric to them is artifice, cunning. They remember CICERO cannot recollect the familiar name of POLYOLETUS until some bystander shouts it in his ear, lest he should be supposed familiar with the history of Greek art—a subject which he knew his fellow citizens would deem unworthy the notice of a Roman statesman. They assert that by attention to dress, by careful attitudes and gesture, by the arts of speech, orators high and low carry away captive the people. They defame an orator of our own time by asserting his descent to the low trick of pocketing jingling coin, so that in the presence of thousands, on the platform, in the nick of time, a decisive blow might give the sharp emphasis of an ear-piercing clink to the contrast between the selfish meanness of MARLBOROUGH at Blenheim and the patriotic generosity of WASHINGTON at Mount Vernon. MONTAIGNE was one of these objectors, for in his own words: "Those who paint and plaister, filling up their wrinkles and deformities are less to blame, for it is no great loss not to see them in their natural complexion; whereas these make it their business to deceive not our sight, but our judgments and so *adulterate and corrupt* the very essence of things. They

would in Sparta have sent such fellows to be whipped for making a profession of a lying and deceitful art."

Now the best answer perhaps to all who thus charge rhetoric with deceit, is to call for a schoolmaster's definition of terms. A definition often will bridge a seemingly impassable gulf, so that friends and foes can join hands. Such depreciators lose sight of the plain distinction between the words *art* and *artifice*. Science is a methodical classification of principles; art is a practical application of these principles. If deceitfully applied for another than the apparent purpose, with the intent to deceive, art becomes artifice; but is not artifice and cannot so be without deceit, which is not essential to art. The processes of art may be known or unknown to us, but artifice conceals them from us. The object of art is apparent, of artifice unknown. Artifice is trick, art is sincerity. Artifice is cunning, art is skill. Artifice is sly, art is frank. Art is reality, artifice is affectation. Art is expediency; artifice is policy. Art is subtle, artifice is subtle. Art elevates itself and the artist; artifice degrades its master and its victim. Art is artistic, artifice is artful. One is substance, the other shadow. One is "to be," the other "to seem." In a word, art is true; artifice is false.

Rhetoric is an art—both a science and an art. As a science, its classified principles are derived from a long observation of the methods by which men of many races have openly combined truth and poetry to accomplish acknowledged purposes; and as an art, it is simply a re-application of one or more of those methods to accomplish the special purpose of some writer or speaker. That purpose may be bad and so may be concealed. But the evil in the purpose, whether accomplished or not, or whether concealed or not, cannot be charged to the account of rhetoric. You would not blame architecture for the wickedness which defiles many a temple. You would not depreciate sculpture because of idolatry, nor painting because of the sensuality it may represent or excite.

Neither should you depreciate a style pure and clear as light, because that style has carried the subtle skepticisms of HUME into many minds; nor the gorgeous grandeur of the periods of GIBBON because in them falsehood assumes the tragic seriousness of truth. We cannot make rhetoric accountable for the evil which may have been done through the application of its methods.

Neither again, can we assume that the purpose of those methods is evil because it is concealed; nor that the methods themselves

are deceitful because they are concealed. I may desire to move men to love for CHRIST; I may tell them so in my book or sermon, and thus exhort them openly and directly to the performance of their duty, and I am very sure my words will be vain; or, I may say nothing of what I intend to induce them to do, nor how I mean to move them, and yet so present to their minds the character and life of the Saviour in all its patience and gentleness and kindness and self-sacrifice, that I know they cannot help loving him. Because no announcement is made of the purpose intended and their love for their Saviour is thus excited indirectly, there is no deceit in those methods, there is no lie in them because no intention to deceive—very far from it. Falsehood is often indirect, but indirectness is not falsehood.

Still more, if the purpose is apparent and worthy, and yet the hearer or reader is ignorant of the methods by which he is convinced or moved, his ignorance does not make those methods deceitful. If a metallic clink gives an emphasis to the meanness of MARLBOROUGH, unemphatic without it, my ignorance of the means does not make the emphasis unworthy. Neither can deceit be charged to the art which taught the orator that a clinked emphasis would be very significant. No one knows how the ministers of the middle ages were raised so gracefully and so high. We may not know how CRAWFORD made PATRICK HENRY live and look and speak in bronze, as he stands now with arm uplifted and flashing eye, beneath the portico of the Capitol at Richmond. Neither can we know how OLE BULL with that little violin could make a thousand people feel just as they did when they saw and heard Niagara. No one but an artist, and he an architect or sculptor, or musician of genius, can tell me—and most likely he cannot tell me how these marvelous effects are produced; yet because I must remain ignorant of his methods, I will not charge the artist with deceit. Yet this would be quite as just as to insist upon the deceitfulness of an art which may teach one how by a single movement of the hand to indicate a nice discrimination in thought, or recall to the eye a scene long passed; quite as just as to insist that those methods of amplification are deceitful by which advocates in our Courts of Justice bring out into the light some important facts and throw into the shade others less vital, so that every juror can see the truth as the advocate sees it.

You would not charge OLE BULL with deceit on his violin, yet every well instructed speaker knows how equally thrilling

effects can be produced by vocal changes of key. The most delicate chords of feeling will vibrate in unison with a tremulous tone, awakening a sympathy with emotions naturally expressed, thus. The emotion may be absent, the tremulousness assumed and so the speaker insincere; but rhetoric is not blame-worthy for teaching him the truth that such tones touch tear-fountains. The deceit is in him, not in his art. Shall I charge architecture with all the wooden spires, or sculpture with all the green lions, or painting with all the staring portraits, or music with all the double and treble demi-semi-quavers, by which big and little boys and girls in city and country are imposed upon? Yet this would be no more unreasonable than to charge rhetoric with the deceit practiced by its false disciples.

Yet few are really deceived. Too highly colored rhetorical pictures and false attitudes are not so likely to deceive as those of painting and sculpture. An audience of children, with their serious eyes, will disrobe an ostentation, see right through an affectation, detect a sham, untuck in their seats, more genuine than their elders, they will nestle down the speaker on the platform. So in vocalization. You may never have heard or seen the speaker who addresses you, yet the instant his tones reach your ear, you know whether they are his own, or have been assumed. You know this intuitively. See at yourself in an audience and watch that famous man who cannot distinguish "the Star Spangled Banner" from "Old Hundred," or even him who can detect no difference between "Philedelphy" and Philadelphia; and we run no risk in asserting that you will even his lip curl with scorn, and his eyebrows elevate themselves with astonishment at the effrontery which should think of imposing upon him with such insincere affectation. Rhetoric then, in itself, in its purposes and in its methods is not insincere, and false rhetoric rarely deceives.

Again, the object of the rhetorical art has been condemned as self-exaltation. The writer and the speaker are said to combine truth and poetry indeed, but only for effect: to gain for themselves a reputation for eloquence; so that if any real object is gained, its attainment will reflect glory on themselves. We are told and told truly: "It is worse than selfish to gain a personal power at the expense of a theme: no man should write or speak simply to gain for himself the reputation of eloquence; such indirect self-exaltation ought to be as disgraceful as direct inordinate display." And says

the objector, is not a wide spread reputation for eloquence often the effect of certain rhetorical methods by which in books, a kind of physical glow is given to the style, and in public speaking through elocution, a false animation is produced? Have you never heard a touching tenderness, or deep emotion simulated through an appropriate prolongation of tones, by changing the vocal key, or even by a certain tremulousness of speech, which every moment seems as if it would—yet never does thicken into sobs and tears? Many a reputation for eloquence is thus falsely gained, yet we are asked, is not this and this only the effect at which rhetoric aims? Is not this self-exaltation plainly the purpose for which the rhetorical art combines philosophy and poetry.

If this indeed be the object of the rhetorical art—so to write and speak that men shall read and say “that is genius,” or hear and cry “it is the voice of a God and not of a man;” then every successful orator, like him who made an oration from a throne, might well be smitten by the angel of the Lord.

But we cannot be mistaken in affirming that every lesson which rhetoric teaches, every precept she inculcates, every example of success in writing and speaking by which she illustrates and enforces these precepts, and every analysis of human nature with which she arms her disciples for success in convincing and persuading men; all these find their key in the single word *self-sacrifice*. It is for other minds, that we are to use strong clear words and pure idioms; to attract the interest of other minds, we are to adorn our pages with all the graces of diction, the jewels of ornament, the flowers of fancy; for other minds and not for ourselves are we to methodize thought and select and combine our arguments in their fullest force. For the sake of other minds, are we to practice repetitions which may be quite needless and even irksome for ourselves. It will be in vain for us to glow with the most ardent enthusiasm for our theme, unless we can communicate the fires of our feeling to other hearts. In the words of the definition with which we started—and this definition applies with peculiar significance at this point: Rhetoric is the art by which we combine philosophy and poetry, not for ourselves, not for our own exaltation, but for a practical end, for effect in its true sense—in order that something may be done, or thought worthy to be done. Rhetoric every where, and at all times teaches the same lesson: that every speaker or writer must sacrifice himself for true effect. This effect—success in accomplishing his purpose—may at last indi-

This rhetorical self-sacrifice for the accomplishment of a purpose differs from that of the artist in other arts. The poet is said to lose himself in his theme; and the more completely he is lost, the better poet he is. Thus SHAKESPEARE rises above MILTON. The painter loses himself in his picture, and thus the artist here rises above the artisan. In their desire to make that picture, statue, frieze or pediment perfect, the painter, the sculptor, the architect are willing to be lost. They are said to separate themselves and their reputation from their work, and are willing for the time to be forgotten in it. So we are accustomed to think and say that he only can be a true poet or a true artist who is lost in his theme, who has no care for the verdict of men—whose whole desire is to develop that theme in words, or colors, or bronze, or stone.

Now we doubt somewhat the truth of all this which we often hear, especially when the attempt is made to degrade, by comparison, the rhetorical art. We think that true poets and artists are not altogether unaffected at last, in their own final opinion of their work by the opinions of men; nor is the verdict of the people altogether banished from their eye during the progress of their work. But whether this be true or not, rhetoric demands of her disciples a greater sacrifice than poetry or painting ever required. A successful writer or speaker must not only lose sight of himself in the complete development of his theme; he must do more. He must so enter into his subject as to make it effective upon other minds. And in this, he must sacrifice himself as no poet, as commonly described and eulogized, ever does. He must sacrifice himself to his subject and to his audience. He cannot roll his theme over and over for his own enjoyment, like a sweet morsel under his tongue. He cannot stand up, soliloquizing like a Coleridgian conversationist in monologue, until it shall seem to his hearers as if he thought it made no difference, and really seem to him that it does make no difference whether they are before him or not. But he must, if I may say so, get behind his theme and propel it forward, make it objective and so impressive upon other minds. He must indeed glow with self-sacrificing enthusiasm in the development of his subject, but he must add to the enthusiasm a poet feels for his theme, a desire to make others feel as he does. His "frenzied eye" will not only be turned backward upon his subject, but forward to his object. Rhetoric does not teach self-exaltation but *self-sacrifice*, and that more genuine, more complete than any other

art. The self-sacrifice of poetry is for itself, for its own sake, in a sense selfish; that of rhetoric unselfish, not only for itself, to reach perfection, but to produce effect upon other minds.

And this effect will be both immediate and permanent, yea permanent because immediate. The reputation of EDMUND BURKE, as an orator, has suffered because it has come down to our time embalmed in that not very complimentary title "the dinner bill of Parliament;" yet I have read his life in vain, if it has not taught me the truth that many of his parliamentary speeches were intensely effective, at the time of their delivery. In the old fashioned words of one of his hearers: "by his striking and animated pictures, he could make the whole house pass instantly from the tenderest emotions of feeling to bursts of laughter. He could raise and quell the passions of his hearers, with as much ease and as rapidly, as a skillful musician passes into the various modulations of his harpsichord." It was the glory of EDMUND BURKE's invective, in his own time, that he could make WARREN HASTINGS believe that he was the greatest criminal on the earth. Now this reputed example of BURKE, and of others like him, has led many to feel, if not to say, that somehow a permanent effect may be produced upon a people, or even upon the same audience, at last, without striving for an immediate impression. But the speeches we read could never have been preserved to be read, if at the time of their delivery they made no impression. They may read well, but they were good speeches, CHARLES FOX to the contrary notwithstanding, because they were more or less effective at the time. They accomplished their purpose, and so are remembered as sources of influence in chapters of history.

But should we not "wait God's time?" It is a contradiction, as well in rhetoric, as in physics, to say that a permanent effect can be produced with no immediate impression.

Yet, we still are told that this endeavor to produce effect, dignify it if you please, by calling it self-sacrifice, is personally degrading. So now we are placed in a dilemma. If rhetoric is self-exalting, it disgusts by its affectation and egotism, and so degrades. If it is self-sacrificing, it then debases the speaker himself and thus degrades him. Yet if we have proved an essential principle of rhetoric to be self-sacrifice rather than self-exaltation; we have made the affected and egotistic rhetorically impossible. And if now, we can establish the statement that self-sacrifice is not debasing, but quite the reverse, we may hope that rhetoric some day, will rise again.

A DEFENCE OF RHETORIC.

In this country, the practical is so much an element of national character and life, and is made so much and so often a test of truth, that it is difficult for us to suppose that any man can feel himself degraded by making their knowledge or refinement useful to their fellows. Yet even in so self-sacrificing a profession as that of the christian ministry, many a scholar and clergyman, especially if young in years, thinks himself debased and compelled to degrade his profound knowledge and his refined taste down to the level of common minds. But is truth any less true, because made to live in men's lives and not packed in dry brains and dustier books? Are volumes of truth any less true because condensed in proverbs, or still closer, in words, so that men may comprehend and races be inspired? All candor, can we believe it degrading thus to give life to the dead and work a new creation? The self-sacrifice needed to accomplish a purpose requires no sacrifice of the truth. A scholar, to be sure, need not tell all he knows upon a comprehensive theme, for in the words of *Theremin*: "Rhetoric bids the speaker forget and sacrifice all the profound and excellent thought he has upon a topic, if it be not indispensably necessary to the attainment of his end. He must be self-sacrificing enough to forego pedantry at the expense of pride. Yet there need be no falsehood here; the truth and all essential truth, can be told, even upon the most fearfully solemn themes." "Those renowned pulpit orators who spoke before Louis XIV and his Court—an auditory who usually would never have pardoned the slightest impropriety in them—often employed and applied all the terms of religion with all the censorial power of their office and always with the greatest effect." And this effect was immediate as well as permanent. Men like to be humiliated, if they deserve it. They are vain and to be terrified, if there be need of it.

Neither does this doctrine of self-sacrifice make it needful for a scholar to debase himself by descending very low, in order to bring men up to his own level, for if he go quite down to the level of the platform, he cannot easily raise them to his. It may be very unbecomingly tasteless to him, for the sake of his audience, to repeat his ideas—ideas which to him may be self-evident almost without statement; yet he may be consoled by the reflection that statesmen like *Webster*, and theologians like *Chalmers* have practised with so much success this use of repetition, that while they have thus made their profound

clear to ordinary minds, they have not lost, but have rather gained the attention and respect of the learned.

But we are prepared to maintain that this self-sacrifice not only does not degrade, but positively elevates the style of the writer or speaker, and also exalts his personal character.

What was the secret of that marvellously perfect prose for which the classical writers are so famous and in which they are so inimitable? If we mistake not, it lies in the fact that they were controlled by the very principle we have been advocating. The ancient histories as well as the poems, the essays as well as the orations were, many of them, recited before an audience; and to the verdict of that audience, as critical as Greeks, every writer was glad to bow. Hence the perfection of that ancient prose style—an exhibition of the skill of the writer in adapting his work to the critical ear of his audience. Hence, among other results, that wonderful rhythm which recitation only could impart, and which even now, in Greek prose, rings like a trumpet. Hence many a period is to-day as mellifluous as if smoothed by the attrition of a million tongues. And this perfection in style is the reward, we think, those ancient writers gained by their self-sacrificing submission to the critical verdict of an audience.

Besides, this self-sacrifice will not debase, it will exalt the personal character of the speaker. Need I say how it will directly exalt him? "How degrading it is always to give expression to one's self merely; to be ever repeating our favorite ideas with self-complacency! What a proof of an imperfect nature, not able to forget itself, absorbed in its own emotions, whims and fancies. How much more noble to desire what is best and worthiest for all around us; to be continually thinking of thoughts that will promote the well being of our fellows; and to feel that heroic impulse to seize upon the hearts of men, and while we lose sight of ourselves, mould them into a nobler state! Thus we are exalted by our own work for them into the moral atmosphere of genius, even before we know it."

Besides, no man can throw himself into the rhetorical arena without soon becoming aware that the effect of words upon those who hear depends very much upon the moral reputation of the man who speaks. He will find, perhaps, that his words have no power because his reputation gives the lie to every one of them. When he rises to speak, the shadow of his evil deeds rises with him. Behind him there, it contradicts the utterance of every good

word by the memory of a bad action. When he points with his hand upward to heaven, that shadow points downward to hell. No public speaker can disregard his reputation and expect success. Now it is nothing new to say that reputation springs out of character, is character; for at last, men know us not so much by what we seem to be, or by what we make ourselves seem to be, as by what we are. And no public speaker can long be ignorant of the fact that the shortest way, the best way, the only way to gain a good repute is to live a good life. Hence, indirectly this rhetorical recognition of an audience, which compels every public speaker to feel in their presence the need of an unsullied reputation, leads him to live an unsullied life. Is it not then plain that the self-sacrifice which in all its departments rhetoric requires, so far from debasing, directly and indirectly, mentally and morally exalts the man.

Our discussion thus far has been vain, if in defending rhetorical culture against objections, we have not to a degree established the statement, which we desire again to emphasize, that rhetoric *in its nature* is not superficial falsehood, but systematic truth; not truth alone, or poetry alone, but in its full development requiring a combination of knowledge, and thought, and imagination, and feeling—a combination thus of the broadest acquisitions and highest powers of which humanity is conscious.

And as to *its purpose*, we desire to re-affirm that these acquisitions and powers are combined, not for deceit and through deceit, but for the truth and by the truth; not for personal aggrandizement, through self-exaltation, but for an effect worthy of the name, through self-sacrifice; not for an object fleeting only and temporary, but for an effect immediate and permanent, yea, permanent because immediate.

And as to the *reflex influence* of rhetorical culture upon the writer and speaker himself, we believe that the achievement of such a combination—even the attempt to make such a combination, with such a purpose and by such methods, must be both mentally and morally exalting.

And, now, in conclusion, we need not be told that men will write and speak successfully without special culture to that end; that men will, in and of themselves, naturally combine truth and poetry to accomplish a purpose! It is a common-place to affirm that truth—that is the results of observation and thought, is attained only by effort and that that effort is made effective to the

attainment of these results by culture. Poetry too, in all its glories of imagination and feeling is but a savage rudeness without culture. We have then, surely, no right to expect that such elements, which themselves can be gained only by such long continued toil, can be combined without special training to that end.

Give to a young mind by the study of natural history, that sharpness of observation and that power of classification and that freshness of feeling which follow and reward such pursuits; by classical study cultivate his memory, strengthen his judgment, enlarge his comprehension, refine his taste; by mathematical culture abstract and concentrate his powers, fix them for days until he can fairly demonstrate the truth of an axiom; through logic let him gain that mental self-control and self-possession, by which on his feet he can evolve the most entangling and entangled reasoning process, and thus also refine his mental perceptions until he can discriminate where there is no difference; through ethics let him learn his relations and obligations to God and man; and at last through metaphysics crown him with the power to turn his head inside out and hold his mind in his hand; bless any young man you please with all this culture, and add to it all the knowledge which the studies I have mentioned will surely give—and give him nothing else; and then ask him to write a clear, well constructed, tastefully expressed English sentence and the pen that you give him will paralyze his hand! He has not yet learned to use rhetorically the mental powers he has gained. He cannot write, or if he does, many a compulsory hearer or reader will wish he never had.

Another one may have by nature, or may have already acquired those six qualities which CICERO has named as essential to an orator: the subtilty of a logician, the learning of a philosopher, the diction almost of a poet, the memory of a lawyer, the voice of a tragedian, the action of the best players. And yet, unless this gifted man has gained through rhetorical studies and practice that culture which will enable him to make any or all of these effective to accomplish a purpose; when he thinks of rising to speak, forthwith the shadow of a great dumbness will press him down! And if in the fearful face of an audience, his tongue should answer to the summons of his brain, all at once he finds his logical subtilty has become too subtle to effect his purpose; his philosophical learning is too extensive or too profound; his style too elaborate or too coarse; his memory over-burdening

own mind and those who hear with superfluous words and examples; his voice uncontrolled; his action meaningless and mechanical. But cultivate him rhetorically by quickening his inventive powers; by familiarizing his mind with standards of taste, with the principles of criticism and the methods of arranging and moving arguments like armies; teach him that great rhetorical lesson of our time, rhetorical economy—the power of condensing style until he can cram “the maximum of thought into the minimum of expression;” teach him how to use his vocal organs so that they shall no longer drawl through a prolonged nasal monotony, or, if descending to the low notes, stun us like a kettle drum and if rising to the high, squeak and irritate us like a broken winded fife; teach him finally, as CICERO would have taught him, how to give every gesture a meaning, whether to emphasise a thought, to intensify a feeling, or to give life to a picture; let him practice, practice, practice, over and over again, all these lessons and others like them, and my word for it, he can now direct his subtilty, he can now adapt his learning, he can now vary his diction, control his memory, modulate his voice, give a meaning to his action.

Rhetoric and rhetoric alone has taught him to combine them all into one great force to accomplish one great purpose. Vigor of thought, brilliancy of imagination, warmth of feeling, are indeed the essential materials which the pen and tongue employ; yet these are vain for enlightening, moving, inspiring men, unless they are combined and directed to the accomplishment of a purpose by rhetorical culture.

This training the schools may give, or the discipline of life may give—easily gained or taught, at an early period with other studies in the schools—acquired in life at mid-day, only after the longest and the hardest trial. But whether gained through the struggles of years of conflict with men, or through the early training of a scholar's life amid the ambitions and rivalries of a university career, always and every where essential to success. Who cannot see evidences of this culture on the pages of every ancient classic, from the earliest Greek to the latest Roman? You may tell me that in the universities of England, the culture of which I speak is ignored and contemned, and yet you ask me to name English writers with such idiomatic raciness and finished elegance of style as those graduates of Oxford and Cambridge, not to mention Edinburgh and Glasgow, who to day mould the opinions and write the books of our mother land.

But, I reply, rhetoric is not there so much ignored and contemptible as you would have us believe, or even as graduates north and south of the Tweed themselves imagine. Through voluntary association like "JNO. STERLING'S" and "the Apostles" club, undergraduates gain that training which develops through the pen, in English words, that power which their logic, and mathematics and Greek have given. Else the world might never have felt the sting of MACAULAY'S trenchant periods, the gigantic power of CARLYLE'S back-handed blows, the indescribable rhythm and tenderness, a refined thought which TENNYSON has immortalized.

Who cannot see the effect of rhetorical training in our literary history, beginning with GEORGE SANDYS and ending with the latest book; how rhetoric here has pruned away or rooted out extravagance, reduced bombast, moistened dryness, ridiculed pedantry, sloughed off common place! Who cannot see the influence of this early culture flowing through the calm current of IRVING'S prose? Who cannot see it in the charming simplicity of PRESCOTT'S narrative? Who cannot feel its power in the invisible fingers of that wonderful writer who through the "Scarlet Letter" yet holds our hearts in his hands?

You may tell me now that many an orator to-day, in the pulpit and on the platform, sways the minds and hearts of thousands who has had none of that training of which I speak. But I venture to say that if you trace the career of any speaker of power you will find that in his earlier or his middle life, God blessed him with that training which has made him the speaker that he is, and the earlier He blessed him with it, the more closely parallel his rhetorical and his ordinary culture ran, the better speaker is he.

The ancient example of DEMOSTHENES traveling up and down along the sea, with pebbles in his mouth, has become ludicrous repetition; yet the early culture and the later success of the "Great Grecian" as well as of his Roman rival are inseparably connected, and as examples should never be forgotten. Modern orators themselves have found it to be for their advantage with the people to insist that the days of rhetoric have passed away. But the reader of English history will find it difficult to name a parliamentary speaker, from JOHN ELIOT to HENRY BROUGHAM who has not been largely indebted to rhetorical training for his success; a success, not always indeed raising him like CHATHAM to the heights of oratory, but more frequently sharpening the wit of a ROBERT WALPOLE and a CHARLES FOX for the keen encounter.

of debate; yet always developing that skill which precept combined with practice only can give. Who does not remember the drudgery through which the elder PITT gained commanding rhetorical power, or the zeal with which the younger followed his example? Who thinks now of maintaining that the wit and brilliancy of SHERIDAN were extempore, or that the "ready CURRAN" was careless of the graces of composition? And in our own history, the day has gone when the example of HENRY can be cited to encourage rhetorical indolence or indifference; HENRY studying human nature and the power of words, every day, with his customers in his little shop, enthusiastically reading history, patiently conning the harangues of LIVY; say what you will, even PATRICK HENRY is a product of training. And who does not read close adaptation to the men before him in the fiery words of JAMES OTIS! Who does not hear the echo of Roman eloquence in the splendid periods of FISHER AMES! Who does not feel the *power of culture* in DANIEL WEBSTER's ten-pound words?

Surely I need say nothing more to impress upon the mind of every teacher the intensity of his obligation to give to every scholar, so far as he may, that power of expression in words through which his acquisitions and his culture can be made effective for good upon mankind.

ELEMENTARY INSTRUCTION IN THE CLASSICS

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"SUCH is the constitution of the human mind," and such are the relations to the knowable, that its successful cultivation is conditioned upon the method by which its activities are directed. As the body cannot grow, become strong, healthful, vigorous and obedient to the will, and subservient to physical ends, or utilize without the orderly methodical observance of the laws which regulate and direct the distribution of light, air, temperature, food, activity, rest and all the other requirements of an imperative and relentless nature, so the mind has its immutable laws by which alone it can be symmetrically developed and conducted in the arena of its higher and nobler functions. It is one evidence of real progress in the department of pedagogics, that elementary instruction is now receiving the careful attention of the first mind of the age, and is already beginning to assume an importance more nearly in proportion to its merits than that which it has heretofore held. By a wise provision of the Author of our being the education of the senses is accomplished in the most natural, easy and yet thorough and systematic manner; so that almost spontaneously the mind readily acquires the habit of attention, the myriad-tongued voice forever talking of the *ego* and the *non-ego*, as the Metaphysicians call it, and a vast amount of knowledge, and even of real education, is afforded, in the *non-age* of irresponsible childhood, on a natural principle, somewhat analagous to that by which the young chick is provided with nutritive pabulum before it has acquired the strength and the skill requisite to break down the intervening wall of separation which shuts it from its world of light and beauty, pleasure and pain, which are to constitute real life. But even in this pupa state of the heir of immortality the operations of the senses may be systematized, methodized, supervised, intended, guided and controlled, for the quickening and intensifying of sensivity, and for the increase of intellectual activity and strength. The experiment in this field challenges the admiration of philanthropists. Object teaching has once more demonstrated that, by obeying Nature, we may command her. But if elementary

instruction is signally successful in a department where Nature, unaided by the schools, had, for centuries, succeeded quite respectably, it is an absolute *sine-qua-non*, when the mind, having broken its shell, and stepped out of its prison, is met by those appalling problems Where, Whither, Whence. At this stage of our being, elementary instruction is no longer a matter of indifference. Henceforth it is a blessing or a curse. Here lie the foundations. If elementary training is right, all is right; if wrong, all else will be wrong. The superiority of those teachers who, unheralded, and for years unknown, have proved their didactic power and the excellence of their method by the living epistles they have sent out to bless the world, depends entirely on their tact at elementary instruction, whether in the so-called sciences, the languages or mathematics. And even were I to be accounted heretical for the assertion, I do not hesitate to affirm that the greatest blessing afforded to the youth of our land, by our best colleges and higher seminaries, and their right to out-rank the primary schools, consist not so much in their higher and more varied literary and scientific bestowments, rich and valuable as they are, as in their superior advantages for affording elementary instruction. It is here, if any where, that the mind is brought face to face with truth, and that the heart is made to throb in unison with immutable principles which, even in the minutest details of patient investigation and clear analysis, carry conviction. Here the mind feels the cogency of intellectual honesty, begins to have contempt for shams, and to appreciate true manhood.

It is by the constant recurrence to first principles that the mind is finally fitted for its life-work of soul culture; and any course or curriculum whatever, which does not succeed in this elementary work, must end in failure. If a boy enters college poorly prepared, as it is called, the constant and unremitting toil of the college Professor is, and must be, directed toward carrying his mind back to the elements of those branches wherein he is wanting, and if he will not, at the suggestion of the Professor, go back and do this first work, he might as well leave college at once. He will not be benefited by the course. He may go through it, but it will not go through him, nor be taken up, assimilated, and become healthful life-giving arterial blood and strong intellectual fibre. Now it is generally supposed that elementary instruction should be given in elementary, or preparatory, schools; and certain it is that when these schools do their work well, they are the

very best auxiliaries to the college and seminary. In some branches, this instruction is well given in these schools. If, however, I may be allowed kindly to express my opinion, formed from careful observation of what has come under my own eye, while in the discharge of my duty, both as an instructor in the Ancient Languages, and as an examiner of pupils and teachers, I think there are great defects which might, and should, in most cases, be remedied. I think that, at least, out of New England, our common schools and academies afford far better elementary instruction in mathematics and natural sciences than in other branches—that the greatest deficiency exists in reading, spelling, English grammar and in the first instruction in Latin and Greek. It became my duty, last fall, to examine a promiscuous class of teachers, numbering twenty-five, several of whom had already taught school, and all of whom desired to obtain certificates entitling them to instruct in the future. There were but two good readers, and not a half dozen who could both read and spell well enough to be teachers of these branches in a common school. Their other attainments were fair, and most of them failed to obtain certificates because of their deficiency in these branches alone.

But I think there is by far the greatest deficiency in the field of Elementary Instruction in the Classics. The importance of this field has never been over estimated, not even by the wildest enthusiast who rides Latin and Greek as his hobby-horses. It cannot be over estimated—it never will be. Language is the dividing line between man and other animals. It is the instrument of thought—the vehicle of ideas. Words, mere words, are real things, life-giving and life-receiving—they touch the mind and warm the heart—the mind touches them and they flash and sparkle and burn and give light to the soul. Through them is all instruction given. Nothing can ever be taught till reduced to the conditions of a language. Inspiration says that “Man shall not live by bread alone, but by every word that proceedeth out of the mouth of God.” That is, man has not only a physical nature, a life dependent on food and drink, but an intellectual, moral nature, whose sustenance is words—these are God-given, and, therefore, impart life, nourish and strengthen the soul, and make it grow. The Son of God, co-eternal and co-equal with the Father, is called The Word; therefore he said he gave himself to be eaten for the life of the world. The flesh of this Word is meat indeed, and its blood is drink indeed, for the support of the

higher life of the soul. In a course of study, words are the first things to be taken up, the last to be laid down.

But how shall words be studied? Certainly not in the gross — not loosely, but *elementarily, radically*, with close analysis that will give sharp outlines, clear and perfect definitions, such as will “distinguish the thing defined from every thing else in nature.” In this manner only can they be converted into mental pabulum, palatable, digestible and nutritive.

Now such are the relations of our own language to elementary instruction in the classics, that without the latter no eminent success in literature or science seems attainable. It is also a law of the growth and development of our language, that it will not thrive when confined to its own Saxon soil and stock. The materials of human language were given to man in the elemental form; that is, in primitive *radicals* or elements. These elements, like those in the material world, have probably never been increased or diminished since they were given to man, or else if any of them do, at times, disappear, they are spontaneously reproduced by some principle instinct in the nature of man. If, by the secession of a tribe from the rest of the human family, a tribe grows up by itself, it finds use for only a certain part or limited portion of these elements, proportioned to the wants and conditions of the people who use the language. If the people are savages, their language is alike impoverished, and when they begin to emerge from barbarism their speech must either call in these discarded elements from other languages, or die. It cannot bear the pressure of ideas rushing in from a new condition, and must summon to its aid the support of additional elements or be itself crushed out and give place to that which can do the work of thought. So have disappeared many languages or dialects from our own continent, notwithstanding the efforts of missionaries and scholars to crystallize and preserve them. And just now it is a question with the government of the Sandwich Islands whether it be not better to let the native language go than to try to hold and use two languages — one that of the common or unlearned people — the other the vehicle of cultivated mind. Such has been the result of lifting up the savage mind by the power of Christianity and all the enlightenment it brings with it. The fate of our Anglo-Saxon, in consequence of its early alliance with the Norman French, and from some other powerful influences, has been quite different from that of the Celtic and some other tongues. It was too sturdy to

be uprooted, even when it could not bear the weight of law, physic and theology — when a Latin Secretary was a necessary appendage of the government, and when all literary and scientific theses must be delivered in Latin, and such minds as MILTON, BACON and NEWTON found it necessary, either to write in Latin, or to be constantly coining new words from that language and from the Greek.

We have, then, a wonderful exhibition of the most unyielding tenacity and the most pliant compromise in the growth and maturity of what is now called the English language. The ideas of those uncultivated minds which, shut away from intercourse with the world, are confined within the vocabulary of a few hundred words, may nearly all be expressed without the aid of foreign elements ; but so soon as we come to books, and begin to study, a new language meets us, holding firmly the old stock, but always seizing upon the foreign, and growing and bearing the fruits of learning in that alone. Children may learn facts, words, names of things, &c., while learning to read ; but so soon as they begin to learn literature and science they must learn language in a different manner, or they will never fully apprehend and feel the force of what they are studying. It does not answer to say that all the terms should have been given in good plain Saxon — they are not so given. In most departments of study a nomenclature cannot be formed from Saxon words. Metaphysics, the most practical and useful of all the sciences, cannot be taught to one who has not had elementary instruction in the classics, or some acquaintance with Latin and Greek. All, then, who are to become scholars, must learn at least the two languages which constitute at present our noble tongue, viz : the mother tongue and the language of literature and science. To go to the study of the sciences, or the study of grammar, or any kind of literature, expecting to learn the nomenclature of each as we need it, is to waste much time in a vain attempt to do what will in the end prove impossible, and make our knowledge superficial and nearly useless. Elementary instruction in the classics, then, should be afforded as the absolutely necessary preliminary preparation to every one that is to learn the science of any branch whatever. With such preparation any one may study successfully the science of language without spending the time necessary to become a linguist, the science of grammar even if he should not become a grammarian, the science of poetics without being a poet, and so on to any extent, and find

his course all the way both pleasant and profitable. Now, where should this elementary classical instruction be given, and in what manner? It should be afforded in the very highest and best form in all our colleges, universities, female colleges and seminaries; it should be given thoroughly in all our academies and schools designed to prepare young men for college, and both sexes for teaching, for business or for professional life; and there should be some means taken to afford it, in some degree, in all our city free schools, grammar schools, union schools and schools that have primary, intermediate and senior departments. As to how it should be given, I can only say that it should be given in such manner as to make it completely, thoroughly and practically useful to the purposes of every day life, and to prove its practical relation to every other branch studied in the school where it is given; and so given that, if the pupil take six lessons, or six hundred, he shall be practically and really benefited, just in proportion to the amount of time bestowed on it, just the same as in the study of numbers, reading, writing or spelling; so that inability to attend school any considerable length of time shall form no part of an excuse for its neglect, any more than for the neglect of any other school duty. I am aware that in many schools where the classics are taught, elementary instruction is not so given, and that often a pupil is advised by his classical teacher not to take up Latin because he is going to school only six months or a year. But this is all because the first instruction given is not communicated in that improved style which characterizes the teaching in many other departments of our American schools.

I have very often employed a young man, just graduated from college, to hear a class in CICERO, HOMER or XENOPHON, and he has satisfied, or, perhaps, exceeded my expectations in his linguistic ability; but I have yet to find the one who could successfully and profitably instruct a class in the first rudiments of Latin grammar. Indeed, a pupil that has been properly taught elementarily up to the point where he may safely begin to read Latin, may make very creditable progress in reading almost any Latin author, under an indifferent tutor, or a mere novice in the art of instructing, who has only that lower ability (that we so often see in men of this class) of deciding, by means of the authorities at hand, when "the work is right." But let a beginner be turned over to such hands, and, in ninety-nine cases out of a hundred, he is ruined for

life, and I am willing that the word life in this assertion should be taken in its fullest sense.

True, a student, when put upon his course of classical *reading*, is infinitely better taught by one who is constantly bidding him go down deep into the subsoil of the elements, where are hidden the gold, the pearls and the gems, and who is able thus, by the analysis of a sentence, or the etymon of a word, to exhibit the cast of the author's soul, in its finest lineaments, as distinct as are those corporeal impersonations made by the *vis artificis Naturæ* which have so startled the explorer at Pompéii, and as much more wonderful, striking and startling than the latter, as the soul is of a higher type and a finer mould, and requires for its cast vastly finer material and more delicate treatment.

Thousands have read the *Paradise Lost* in their own tongue, and to the day of their death have wondered what madness or stupidity had induced the world to admire as poetry a book which seemed to them to have been written without rhyme and almost without reason. Had the same persons been put to translate the same from Greek into English, as an exercise of elementary instruction in the classics, the great mystery of its charms would have been solved at the very threshold of the work; and no one can read CICERO or TACITUS, XENOPHON or PLATO, elementally, without becoming inspired in some degree, by the spirit which animated the author. But one whose first instruction in the Latin and Greek has been conducted on natural and correct principles, will, ever after, even under the weakest tutor, or the most profoundly fossilized professor, be able to extract nutriment and life from what he reads, and even in the dull dogmas of authorities cited, or in the wide wilderness of HOOGEVEEN'S Particles, will often construct a truth-defending castle, or some beautiful and fruitful hanging gardens, which tower to the sunlight of practical life. From having been obliged many years to contemplate this feature of the case, and from my firm conviction of the truth of the principle (already more than intimated) that our language, science and literature sustain such relations to classical learning, or to the study of Greek and Latin, that any system of general education which ignores this foundation of intellectual growth, must perish speedily by its own hands. I have often, when enraged at seeing a fine lot of boys set to studying Latin backwards, till completely befogged and disgusted, four-fifths of them characterized by their teacher as dull and incorrigibly lazy, and

dropping the study and the design of going to college, and half the remainder entering college there to be told that they had learned nothing in these languages which they should have learned, but several things which they should not have learned, because false; such, for instance, as that a Latin or Greek word has a great many different meanings, that the principal design of a lexicon is to give a list of definitions — that *negare* means to *deny*, *conducere* to *hire*, *nubere* to *marry*, *ducere* ditto, the one feminine and the other masculine, *uti* to *use*, *contendere* to *contend* or *fight*, *credere* to *believe* — that *ἐκκλησία* in the New Testament means church, but in profane writers something else, *κέρας* in the Bible is a *horn*, in the *Anabasis* it may mean *wing*, &c., &c., &c. I say, when enraged at seeing some of the best young minds, by this process, forever shut out from the pale of a liberal education, I have said that I believed that it would be far better for the interests of learning if the so-called elementary instructor could be made to change places with the college professor, at least in the classical department, for there are helps enough to elucidate the most difficult passages in Greek, and the merest perfunctorist can cite authorities; but a course of elementary instruction in the classics has never yet been stereotyped, nor can it be, and every successful teacher of the first rudiments of Latin and Greek must be, to some extent, an original character; and, while he will be most eager to know how the work is done, and has been done, by the best scholars, his own labors will be *sui generis*, and he will have to do so much with the *elements* of language that his method will be born of his own mind, and partake of his own intellectual nature, enabling him to strike hands with the souls of those whom he teaches, and to know, of his own knowledge, that they think and feel what he thinks and feels. This kind of instruction cannot be given by a mere perfunctorist, and many who have passed for fine classical scholars in college, and graduated with honor, and who, had it fallen to their lot to instruct classes in HOMER and LIVY only, would have still passed for respectable teachers, when they come to purely elementary classical instruction, most signally fail; because, as said before, a pupil well grounded in the rudiments of any branch may thrive under very moderate didactic ability; but to fit him to thrive under any and all kinds of educational regimen, requires talent of the highest order to instruct him in the first rudiments of Latin and Greek. Hence I may say, even at second thought, and in sober earnestness, that I would hail it as a most auspicious omen,

if the experiment should be made of giving, if need be, to two or three of the most eminent classical college professors in our land double or triple their present honors and emoluments to induce them to take their places in some suitable preparatory schools to teach the first rudiments of Greek and Latin. I believe that if such an experiment were judiciously and properly conducted, the result would be a revolution in classical instruction such as would advance the interests of liberal education more than any other means within our reach, and, at the same, by demonstrating the practical bearing of classical learning upon the education needed by the masses of the common people, would promote the welfare of the common schools more than any thing which has been done in half a century.

A teacher of some distinction, who was regarded a good scholar and honest student in college, told me, not long since, that he had escaped the hands of the preparatory teacher, and of the college professor, without learning the difference between the Greek spiritus asper and spiritus lenis, and that, to his amazement, when he was called to teach beginners in Greek and Latin, as he was accustomed to teach mathematics, that is elementally and demonstrably, step by step, he did not *know* Latin and Greek. He could read the authors in those languages, but did not know the languages in which they were written. But he did not consider it beneath his dignity to learn them in the only way in which they could be learned, elementally. He was not long in coming to the knowledge which he sought. He now gives elementary instruction in the classics by a method originated by himself, and every pupil in these branches has a passion and a peculiar genius for classical study. Now, the defect in his education was not the fault of the college. The spiritus asper, the spiritus lenis and the rest of the Greek alphabet ought to be learned by boys before they enter college, and yet many of them get in before they have learned the letter γ or the Latin marks of orthoëpy and quantity.

Now, it might be supposed that in such a paper as this, the writer should indicate what are *his* notions about the method of giving elementary instruction in the classics. I have no aversion to doing this in detail so far as I may be able, but the method adopted by myself embraces so large a territory, and has to do with so many particulars, that it is difficult to decide what to put into the description and what to leave out. I may remark in general that there are two ways in which children may learn

Latin and Greek : the first, that so successfully employed once in the English Latin schools, by reading, writing and talking almost, altogether, in those languages, from early childhood, till Greek and Latin are about as familiar as the mother tongue. This course has made excellent classical scholars. It has many advantages, but as it seems to be impracticable in this country and in the present age, it is not likely to come into general use. HAMILTON observed, some thirty years since, that uneducated and neglected boys could be picked up from the streets, and, under proper manipulation, could, in a few weeks, be taught to construe a chapter in the Greek Testament, or a passage from the *Æneid*. This method had its run of success, became very popular and was introduced into this country in the system of interlinear translations, which, though no longer in any of our schools that I am aware of, are nevertheless often seen on the upper shelves of our book stores, and between the mattresses of preparatory and college students. Why did not *this* system succeed ? It was very popular at one time in some portions of our State. Young ladies in female seminaries learned to read VIRGIL beautifully by it. But was soon found that young ladies and lads could learn to read VIRGIL without learning the Latin language. It was not HAMILTON'S design that any taught by this system should do so. They were to be put upon a thorough course of grammar. Syntax was timely to be learned, and that thoroughly. But some how when the boys had learned to read Latin they could hardly be made to feel the necessity of studying very hard to learn *why* they read it. They were always *going* to learn the why, but in fact never did, except in those few cases where the zeal of a rare instructor and the honesty of a faithful pupil triumphed over even nature itself. Now, while this method has nominally become obsolete, it is greatly to be regretted that the reading of Latin or Greek should still, in very many schools, be carried on without the elementary study of those languages. I do not wish to speak reproachfully, nor disparagingly, of instructors. In many cases they consider themselves in a sad dilemma ; they would teach these languages, but a certain amount must be read in a given time. If they can make a boy do this, they may have the work ; not, Mr. Hot-bed shall have it. But I would say to all such, never yield the point ; teach the elements of Greek and Latin, and in no instance suffer a scholar to read but by and through *his* own knowledge of those elements. He can learn to read by means

of a translation — this is a mechanical and very unintellectual process — but to learn the languages he must study. This is a highly intellectual process wherein a true teacher may be of incalculable service by convincing him that all the work must be done by himself.

I do not like to speak of my own labors, but I have been often importuned to make a simple statement of the method by which all, of every age and temperament, who study Greek and Latin with me come to the work with so much pleasure, and so many in a little time have an overmastering passion for these studies. A friend of mine who holds a professorship in college, and at the same time has the principal supervision over a large preparatory school, recently tried to extort a promise from me that I would prepare and publish what he was pleased to call my plan of elementary instruction in the classics. Other heads of academies have made a similar request. I should be glad to gratify them, or to do *any* thing that would help on the cause of that branch of learning which, I am convinced, lies at the foundation of good education. I have been twenty years employed in giving classical instruction. Never, in that time, that I am aware, have any of my pupils, after they have fairly got to work, failed to be delighted with the study; but I have had a great many who, in a short time, have become enthusiasts. I am not conscious of using the spur often, but frequently urge my students to hasten more slowly and take more rest. Said a clergyman to me not long since, who occupies one of the most prominent positions in the gift of one of the principal evangelical denominations of our country: "My joining your Latin class was the turning point of my life. I had studied Latin and Greek three or four years, and had become disgusted with both, with my teacher and myself. But when I got the thread of the labyrinth, my destiny was changed." Said one of the most successful business men in Rochester the other day: "I owe my whole success in business to a single remark dropped by you when I was in your Latin class." All honest teachers have, no doubt, received similar grateful returns. I have been accustomed to consider such expressions, not as personal tributes, but as testimonials to the practical utility of the branch of instruction to which I have devoted my life. A brief outline of my method is somewhat as follows:

I. The pupil must perform the labor himself. The elements *must be so set* before him that their combination for practical purposes *must be* the result of his own thinking.

II. In taking up the study of the ancient languages, he must be shown the essential difference between an inflected and an uninflected language. This can be done by a variety of expedients; such, for instance, as by examining the remains of inflections in his mother tongue, and showing how these might be greatly extended — *e. g.* walk-did or did walk, and amusing illustrations from children and savages or contrabands: Done walked, done gone, &c., &c. It would take many pages to illustrate this principle. A few minutes in this way every time any thing is given to be committed will make every scholar feel the force and reason of what he is doing while learning the inflections of nouns, adjectives, &c. When he reaches the verb his ideas will be expanded, when it is shown how the personal pronouns were suffixed to the verb — that he may learn all these in a few minutes, and learn to suffix them. As he does not yet know Latin words he may try his skill — *o*, *i*, or *m*, added to walk-is, *walko* or walk *abam*, or *walkabo*, &c., *is*, I am or was or shall be walking, &c., &c., *walk-as* or *is*, or *es* instead of *su* walk, &c.

He soon sees that mood, tense, voice, &c., are expressed by carrying out this system. The board must be constantly used for illustration. He must see the demonstrations; he must make it up for himself. If he has begun Greek, a short conversation about the difference in the pronominal suffixes arising from the different roots may show him the relations of *su* to *s* in *amas*, and after awhile to *tu*, and *du*, and *thu*, and *thou*. To some pupils this will be very interesting, and the memorizing of the endings will be done without any apparent effort, and every mistake will lead to another discussion and, perhaps, to more amusement. But care must be taken not to answer too many questions, or, in other words, not to let the pupil learn too *many things* at first, or his field of vision will be so extensive that he will get lost. There are many things he must not be allowed to learn at first. Now he is told that there is no language in the world so regular in its verbs as the Latin, and that now he can open any Latin book and, though he has not learned a single verb, he can point out the verbs and tell their voice, number and person, and with a few additional hints their tense also. Let some one in the class try; if he blunders let others correct him. Now he may be told that he would be ashamed to study a Latin verb to commit all those endings to memory, when attached to the verb making a vast number of mere words, for he *can inflect* any verb if he is started in the right

voice and tense. He may try it. Very well; I guess you will none of you mistake a verb; we will parse one etymologically. Very well; you seem to be native Latins, for you have got the verb without studying it. Now the class may take three or five to parse in the present tense, so as to learn to think fast and true at the same time, &c. Then they must put as many English verbs into Latin, &c. Some one may discover that the personal pronouns are also prepositive to the verb and will ask what is the use? The settling of this question illustrates emphatic repetition, and other matters will come in.

Now we have begun to parse, which, at first, is by verbs, a single word at a time, unencumbered by syntax. We are at word building. But modifications are very numerous in Latin and Greek, and upon these mainly depend their relations to other words. If a single modification be missed when the pupil reads he cannot give a full and complete rendering to the sentence. To prevent him from missing any one at any time, he may write out all the modifications in order and arrange them, thus forming quite a parsing table for one part of speech. I have had pupils write such a table and use it to ascertain when they had completed their lesson, or done the whole work. I have published such a table, which may be put into their hands at the proper time. The process must be continued till they can parse perfectly any part of speech; but

III. Latin must be made practically useful to every member of the class. When parsing commences word-building is begun in earnest. A single definition must be given for the root of the word, and that or its *spiritus*, its *anima*, or its *umbra*, must be traced and tracked with ability through all that the student knows of his own language — e. g. Pugn, fist, *pugnus* a fist, the f. *pugno*, fist, &c., &c. Q. What think you was the primitive mode of fighting, not yet altogether obsolete? John, here is a sentence; bring it to the class next time and explain the use in it of the word *impugn*, and the reason of its orthography. I did not intend to *impugn* your motives, Sir. James, take this. That is very repugnant to my feelings. George, did you ever see any one that was pugnacious? How did he look? What was his attitude? By adieu we meet *repugnare*, *expugnare*, &c., &c., derivative nouns and adjectives. The class are learning to spell. They do not misspell nor confound *impugn* and *impunity*, *intercede* and *superseede* though the majority of the newspapers have misspelled *superseede*.

daily for the last four years. But I am only hinting at what is done here. Ten thousand expedients will suggest themselves to every true teacher. One example of the manner in which this process will bring pupils to work : A few days since I gave to a member of a class the root *fac, fi*, for him to bring in as many English words as he could find, either derived from or compounded of this radical, saying that, if careful, he might, I thought, get a hundred or two. In the course of a few days he astonished the class, and me, too, by bringing in his pocket note-book a list of upwards of thirteen hundred words, neatly written out and alphabetically arranged, many of them, to be sure, obsolete or obsolescent, and many of which one might well doubt the propriety of using. As pupils advance, the work of this kind becomes more curious and interesting. One pupil is required to give the etymological history of the word candidate, and to tell whether or not it is related to candy, and whether the slang-phrase " whitewashing a candidate " ever had a literal application among the Romans. How do you prove that *oval* may be cognate with the Greek *'oov* beef with *βovς* and *bos*, &c., &c. I have said that the board should be often used in teaching Latin ; in Greek it is indispensable. The pupil must all the while carry out the process for himself, both forward and backward, that is, from the Greek to the English, and as often from the English to the Greek. *E. g.*, one writes *hyphen* and is told to write out its analysis like an equation on the board ; if he fails, or makes a mistake, there is a chance for another to try. Another takes the word syllable ; another may spell *hendiadys* with Greek letters and give its etymon, and so on. Now, all this is carried on as a diversion, in connection with a regular and systematic course of selected portions of the grammars of the languages studied ; but any one would be surprised to see what an amount of the English grammar, dictionary, spelling-book, history, natural science, history of opinions, &c., &c., is thus unconsciously gained ; and let any accident cut off the student's course at any point, and he will carry nearly all his treasures with him ; they will be part of his mind, and he will be a better farmer, mechanic or any thing else, and, above all, a better boy and better man (if he lives to grow up), that he has thus learned how to use his powers—*learned how to learn*. Words have entered his mind to abide there, and they have taken ideas with them, the same ideas that lived and throbbed in the minds of all

thinkers of the past. But he will, if possible, return to that delightful labor.

By this process the pupil, it is true, has not acquired the profound respect for dictionaries that is common in students who begin the study of the languages by trying to read; but he very soon learns of what material dictionaries are made, and upon what principle, and before he has completed his course he feels quite independent of them. All the time also he has been studying his own language in a novel and interesting manner. Ask him to explain the difference between reputation and character, evidence and testimony, a fact and a truth, audience and congregation. Questions of this kind lead him to distinguish the things that differ, and to define his ideas by sharp lines. But I can only suggest what may be done here. As yet he has read none, but even if he should enter college now, he will soon outstrip those who read several authors before entering, but who jumped the elementary training preliminary thereto. I have often seen this tried.

The process of reading simple sentences is very easy to such a pupil. He is made first to point out the syntactical relations between the words by their terminal modifications, and to see that this is the key to unlock the true meaning of every sentence. But to succeed in this work he must keep up the double process analogous to that used in studying the etymon. He is to demonstrate every grammatical rule, not only by showing its application to the Latin or Greek example, but by constructing a sentence in Latin or Greek which shall embody an example for illustration. I regard this of great importance. I consider the neglect of turning English into Latin or Greek to be one of the serious defects of the method generally pursued in most parts of our country at the present time. Often the scholar will translate well from the Greek or Latin into English, and a question or two from the teacher on the most intricate points, if correctly answered, gives a fair inference that he understands his work, but in the abundance of aid given in notes and lexicons it is very doubtful just how much, even of the explanation itself, is his own brain work, and, in most cases, let him be required to build a sentence on the model of the original which he has just explained, and, if unaccustomed to this kind of work, he will fully prove by his blunders that he only hears knows the principles on which it is to be done. A few days since I had occasion to try the experiment on some promising young men just fitted for college. I gave them to put into Latin, E

said that he would go. Three out of five wrote : Dixit ut iret, one Dicebat ut iret, and one Dicebat ut ibat. A teacher can never be sure that his pupil understands all parts of a Latin structure until he has tested him in this manner, and a student who may translate and parse well through his entire course, but who only reads into English, is but half taught.

Again, this play back and forth between the Greek and English, English and Greek, Latin and English, and English and Latin, makes the student an expert in the idioms of each of these languages. It is often thought that if the student can render a sentence into tolerable English, almost in the order in which it stands, he appreciates the original, when really such a rendering is more generally an evidence that he has not a clear and full understanding of the English idiomatic equivalent. Such a translation is an indolent or slovenly way of doing the work.

I must omit, among a great deal that is interesting and important, the subject of orthoëpy and prosody, including syllabication, euphonic laws, accent, Greek, English and Latin. All these should be taught in the same thorough and practical manner; and, last of all, (as having an important bearing upon English belles-lettres,) quantity and poetics. Here is a most interesting field for any pupil so soon as he is prepared to enter it. But having exceeded more than twice the limits of my intention, in the extent of this paper, and having, by the brevity of some parts, incurred the risk of being misunderstood in several particulars, and by giving my views, as illustrated by my own method, exposed myself to the charge of egotism or charlatanry, I somewhat reluctantly stop short where there are volumes to be said. I earnestly hope that Elementary Instruction in the Classics may yet receive the attention it merits at the hands of scholars.

THE REQUISITES OF ADMISSION TO COLLEGE

BY S. G. WILLIAMS, A. M.

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THE mutual relations of the two great classes of schools represented in this Convocation is a topic which may rightfully claim share of our attention at the present time : and this paper has been prepared with the hope of promoting a free discussion of the subject, and of obtaining, if possible, some definite action upon it. It would seem from some papers presented at former meetings of the Convocation, and from some incidental remarks there made, that there is quite a diversity of opinion as to where the dividing line between the academic and collegiate courses should be drawn, or whether, in fact, there should be any such definite division line at all. Yet it is thought that this diversity of sentiment is rather apparent than real, and that a thorough discussion of the subject leading to a full understanding of its bearings, would reveal substantial unanimity of opinion. For if we are to have the two classes of schools existing together as parts of one system, it would seem that this proposition should be self-evident ; that each should have its own appropriate, well-defined sphere of action from which it should not depart, its own distinctive work to perform which it should do thoroughly without encroaching, either directly or indirectly, on the work of the other. As the academy should not, from a mistaken ambition, attempt to prepare students for an advanced standing in college, so the college should not, by examinations merely nominal in effect, or by the pernicious practice of admitting students with certain limitations, encourage young men to leave the academy until their work there has been fully and properly done. By undertaking to prepare students for an advanced class in college, the academy assumes to itself duties which its teachers—severely enough tasked at best—cannot advantageously perform, and bestows an undue amount of time upon comparatively few individuals, too often to the neglect of that thorough and careful drill upon elementary principles which is so necessary to the student's pleasant progress hereafter. admitting students with a preparation, insufficient whether

quantity or in kind, the college, while it lowers the tone of the academies, depreciates its own standard, and incapacitates itself, measurably, for bestowing that higher culture which belongs to it to give; introduces into its classes young men who are a vexation to professors, and a hindrance to students more thoroughly prepared; and, saddest of all, too often inflicts a life-long injury on the subjects of its misplaced indulgence, who, from the lack of the necessary previous discipline, become discouraged and reap little benefit from their college course, if they do not do worse.

For the highest efficiency of both, each should then do its own proper work, and attempt nothing else. What is that work? A not unreasonable statement of it might be, that the work of the academy should be to give a most thorough drill upon the elementary and fundamental parts of all, or nearly all, those branches which are to form the subject-matter of the student's higher and more refined investigations in college. Thus may the college be left unencumbered to pursue its appropriate work, of teaching the philosophy of lingual and mathematical science, of science physical and metaphysical, ethical and historical, together with the relations which all these bear to each other, and to that grander science of right-living for which all study is but an auxilliary and preparation: thus putting a young man in completest possession of himself, his powers and faculties, and sending him forth into the world prepared for the successful pursuit of any avocation by the fullest and most symmetrical development of his nature,—which is the true ideal and noblest product of a finished school education.

For their chief use as a means of disciplining certain faculties, and as affording the most convenient instruments for investigating the philosophy of Language, it would seem that five years' study of Latin and four and two-thirds years' study of Greek might be sufficient. It is proposed, then, that three years' study of the former and two and one-third years' study of the latter should be pursued at the academy as the necessary preparation for college in those branches. In Latin, after the needful preliminary study of some introductory work like SMITH'S *Principia Latina*, or HARKNESS' *Arnold*, or of the *Grammar*, if preferred, there should be required a thorough acquaintance with five Books of CÆSAR'S *Commentaries*, together with the main principles of Syntax, six Books of the *Æneid* with Latin Prosody, SALLUST'S *Catiline* and seven of the orations of CICERO with ARNOLD'S *Latin Prose Composition to the passive voice*.

In Greek, after the study of some proper introduction which should not only drill the student on the inflections of the language, but familiarize him with them, as fast as acquired, by constant use in the construction of sentences, it would not be too much to require the fables, anecdotes and natural history of JACOB'S Greek Reader, with the main principles of Syntax, three Books of XENOPHON'S Anabasis and one Book of HOMER with Greek Prosody.

In Mathematics let there be required a thorough acquaintance with Arithmetic and Algebra, as taught in some of the highest treatises on those subjects, Geometry to measurement of volume and plane Trigonometry; and let there be such an acquaintance demanded with Rhetoric, Natural Philosophy, Inorganic Chemistry to metals and Geology as can be gained in the usual academic textbooks on those subjects. English Grammar is, of course, presupposed. A course for the academies has here been sketched which—excluding arithmetic and grammar as belonging properly to the common schools—a student, with proper diligence, can complete in three years, with no more than three recitations each day, as follows:

1...	Principia or	Rhetoric.....	Algebra.
2...	Principia	do	do
3...	Principia 1-2 and Cæsar 25 sec. 1-2.....	Greek Lessons.....	do
4...	Cæsar to book 3d	Greek Lessons & R. fables	Geometry.
5...	do do 6th.....	Gr. Reader, anecdotes....	Geometry and Trig.
6...	Virgil, 2 books.....	Gr. Reader, Nat. Hist. and Anabasis 2 c.....	Natural Philosophy
7...	Virgil to book 7th.....	Anabasis, book 1st	Chemistry.
	Arnold 1 L. a wk.		
8...	Cicero, 4 orations.....	Anabasis, books 2d & 3d..	Sallust.
	Arnold 2 L. a wk.		
9...	Cicero, 3 orations.....	Homer, 1 book.....	Geology.

Does any one think that too much is here proposed? If so permit the explanation that it has been intended, while drawing precisely the dividing line between the two classes of schools, to fix it so high as somewhat to elevate the grade of both, as we will doubt that it should be? The tendency has been heretofore too much to abridge the boy's schooldays, and to thrust him too early an age into the whirlpool of affairs; but, as our country grows older and richer, it is coming to feel the need of a high culture and a more thorough training. It will surely be no indignified for the educational institutions of the great State of New York to become the leaders, as they well may, in this great movement, than for them to present the pitiable spectacle of

ing their unorganized and discordant parts swept struggling along **by** the force of a current which readier hands have undertaken to **control**.

The above proposal undeniably looks to a uniformity of preparation on the part of the academies and a uniformity of requirement on the part of the colleges, without which there can be little concert and harmony of action between the two classes of institutions. Permit the question whether, the more thoroughly to perfect the organization thus contemplated, and to secure, as far as may be, complete uniformity of examination, it might not be well that the examinations on the preparatory studies should be held at three or more properly-chosen places in the State by representatives of the several college faculties and of the Board of Regents, the certificate of an examination properly sustained, entitling the holder to admission to any college in the State? It is known that some difficulties might arise in the execution of this plan; but they may be mainly obviated, it is thought, by proper care; while the benefits to flow from it would be great. Not the least of these benefits would be to stimulate the academies to a laudable emulation in thoroughness of teaching, and to rouse in students a wholesome ambition to acquit themselves handsomely in an examination so public in its nature. The expediency of competitive examinations for our colleges, has long been urged by some of the best educational authorities in the nation. Something of this kind might be beneficial to our academies also; and the mode of examinations here suggested would afford a ready means for the comparison of modes of training and their results, and so furnish to all the academies valuable hints for future improvement.

From the consultation that could be had with academic principals it is believed that the academies are, in the main, anxious to have their part in the work of higher education definitely assigned to them, and to do it thoroughly; and that they are ready to give their hearty co-operation to the colleges in any systematic effort to elevate the standard of academic and collegiate education in our State. There is no reason to suppose that there will be any lack of zeal on the part of the colleges in furthering this important work; for their vital interests are quite as intimately concerned as those of the academies in any judicious effort to advance our educational interests.

It is needless to say that no disposition is felt to interfere in the slightest degree with the special aims of the various colleges, or

with the special courses of study they may adopt for the attainment of their ends. These can very safely be left to the enlightened judgment of those learned and most respectable institutions.

To put the conclusions of this paper into a form more susceptible of definite discussion, the following resolutions are respectfully submitted :

Resolved, That it is desirable that the standard of requirements for admission to the colleges of our State should be definite and uniform.

Resolved, That this Convocation recommend to the colleges to adopt as such uniform requirements the following studies or their full equivalent viz.: In Latin, after the necessary introductory study and Latin grammar, five books of Cæsar, six books of the Æneid, Sallust's Catiline, and several orations of Cicero, with Arnold's Latin Prose Composition to the Passi Voice; in Greek, the proper introductory study, Greek grammar, the prose of Jacob's Greek Reader to Mythology, three books of the Anabasis, and one book of Homer; in Mathematics, arithmetic and algebra as taught in some of the higher text books on these subjects, geometry to the measurement of volume, and plane trigonometry; rhetoric; and in Natural Science, natural philosophy, chemistry to metals, and geology.

Resolved, That the examinations for admission to college should be held on the same day or days at not less than three places in the State, to be designated by the Board of Regents; that the examinations should be chiefly in writing from printed lists of questions, which lists should be the same in all the boards for any year; that the examiners should recognize three grades of scholarship among the candidates admitted, the first grade to embrace those who answer correctly at least eighty per cent. in value of the questions proposed, the second grade, those who answer at least sixty-five per cent. in value of the questions, and the third grade those who answer at least fifty per cent. in value of the questions; that the certificate of examination should bear on its face the grade of scholarship displayed by the person holding it, and the name of the academy at which he was prepared, with the name of its principal; and that this certificate should admit its holder to any college in the State, subject always to such conditions with regard to moral character as the several colleges may see fit to impose.

Resolved, That where a student is unable to attend the regular examination the faculty of any college should, in their discretion, after a special examination, admit him to the recitations of the lowest class, but not matriculate him until he procures, at the next regular examination, the requisite certificate of proficiency.

COMPARATIVE PHILOLOGY.

BY J. WILSON, A. M.

Principal of Onondaga Academy.

THIS paper is presented in response to a call for an article on the subject of a work recently published and entitled "*Phrasis: A Treatise on the History and Structure of the different Languages of the World, with a Comparative View of the Forms of their Words and the Style of their Expressions*;"—the desire being expressed in the invitation, to have presented at this meeting an outline of the plan of the work, and its adaptation for use in the study of our languages. This will be done in an indirect way, but one which will, I hope, be found none the less satisfactory. By treating of the science generally, and stating what it should be, I shall indicate, by inference, the spirit of the author and the contents of the work. By following this method, it is hoped the paper will be found more interesting, and be freed from the stiffness and formality of a mere synopsis.

Of the time allotted to the young man who proposes to graduate at any of our colleges, a large portion is set apart for the study of the classics; and I do not complain of the time devoted to this branch of learning, but to the use that is made of it. I would not wish to discourage the study of Latin and Greek, but I would like to give it another direction. Latin and Greek have, at the present day, a certain value as forms of language, which are interesting and important, because they are extraordinary and instructive, but they have very little value beyond that. I am willing that they, in common with Sanscrit, shall be thoroughly learned as the proper foundation on which the philologist should rear his education, but they should be studied for what they teach us, and not simply, as at present, for the mere reputation of being able to read them. If this position be true, it is easy to see that our education in philology should not stop with what is conceived to be the mastery of these tongues. They present each only one of the forms of language, however novel and interesting that form may be, and other languages may present other forms of the original type, almost as attractive, if not quite, and full as important.

You will perceive that I have in view a study which is as yet unknown in this country. In my opinion, the current mode of acquiring a language by mere rules and precepts, at the expense of memory and neglect of judgment, is by no means the best one. It is neither the surest nor the shortest. That we may master a language, it must become familiar to us; we must understand the principles of its construction and the character of its elements; in a word, it must be brought home to us. But how can this happen, if language in the abstract, and apart from the individual which represents it, has no interest and importance? Nothing, certainly, no language, contains its own history or can develop its own character. All admit this principle in Natural History, though they may not be so ready to apply it in language. Would we ever understand the true nature of man by studying, no matter how long or how diligently, a single individual, at any one stage of life, and representing only one part of the human race? Could we ever understand that the wings of the bird are identical in character with the forefeet of the quadrupeds, or with the pectoral fins of fish, if we did not find the intermediate steps in other portions of the animal kingdom? Again, I repeat, nothing contains, or can develop its own history. It is precisely on this principle that when we seek for the history and character of English, we pass irresistibly into the Danish, German and French for new forms of it. CARPENTER's great work on Comparative Physiology is but the unfolding of a single idea, namely, that the growth and formation of one being illustrates and explains the growth and formation of every other. And why may not some one yet do for us in language what CARPENTER has done in Natural History? No truth is more positive than this, that what we learn of the structure of one language is so much to advance us in the study of every other.

I do not pretend that this Comparative Philology will acquire any language for us. I do not pretend that science is art. Science, I well understand, is knowledge, and art is practice; science never builds machines, but art never has built them without science. So it is here: the study of language is a science, a distinct and an indispensable thing; the acquiring of languages is an art, and one which can never proceed without the science, and the more of the science the better the art. If it be objected that languages can be acquired without the aid of Comparative Philology, I answer that bridges can be built by those who have never

studied civil engineering, and men have acquired fortunes and held offices who could neither read nor write. No one would think that a reason why engineers should not study engineering, or that those who fill the stations of educated men should be destitute of learning.

Having said thus much to justify the study of languages comparatively, as parts of one and the same body, and in opposition to their study as mere isolated and unrelated individuals, we will next proceed to take a closer view of this science as it stands to-day, and to indicate some of the wonderful results and discoveries which its study has begotten. Let us first turn our attention to the history of the various parts of speech, and observe the insight which has been given us into the true character of certain well-known, but until recently ill-understood features; and first the endings of case. It was for a long time supposed, and it still is by many philologists, that those endings indicate an element added, that they really are, more or less condensed, the repositions which they represent, and that hence the noun in Latin, as we have it, is a compound of at least two elements, not more. But it may as well be remarked here as elsewhere, that it is one of the fundamental principles of the work under consideration, that words in language are not compounds, but that they are growths, developing the parts which we see, just as any organized being does. The tree develops all its parts from itself; it is no greater, it contains no more, when it is become the giant oak than when it was a shrub, nay an acorn. It is merely an idea, a fact, unfolded to our eyes.

The expression of case relation does not come from the noun itself, but from the verb, the noun, or the adjective, which governs it, and the variations which it undergoes in certain languages are merely a matter of harmonizing with that governing word. If this were not true, we could not have the same form to indicate entirely different relations, as *pennæ*, pens, of a pen, for a pen.

In the ancient languages, those endings were always slighted as valueless, they were continually approaching to identity, and in the modern languages they disappear entirely.

But what *are* these case-endings, with what are they related, and with what identical? They are identical with the gender-endings, and with the numerous family that represents those endings, the *a* of *bonus* and *filius*, the *a* of *bona* and *filia*, the *um* of *bonum*, *ignum*, *donum*, *templum*; in other words, the oblique cases are forms of the nominative and no more. We see this most evident

in the German languages, where the endings *em, en, es, er*, supposed to mark the different cases, are common noun and adjective endings for the nominative; we see it by the four case-forms of the German article *der, des, dem, den*, and the plural *die*, which are all evidently variations of one form. But the strongest proof that one-case form contains as much as every other, but not more, a truth which applies to every variety of forms, to tenses, to persons, to number, to everything, is found in the remarkable fact, as universal as it was unexpected, that a form which we use for one office, is used by ourselves, or by others, at other times with an entirely different application; thus, the Ger. acc. *den*, the, is in Swed. the nominative *den*, Gothic and Icelandic *thann*, our *then, than, them*; the Gothic *his*, this, is our *his*, L. *is*; the Germ. *dem*, sing., to the, is our *them*; and *dieser*, this, is our *these*. In the older days of our own language, *him* was used for *he*, as *me* is still used in many languages for *I*; *her* was used for *their*, and *she*, (*se*) and *that*, for *the*; our *their*, gen. plural, was once but the genitive singular of the article *the*; in Ang. Sax., *hi* (our *he*) was used for *her*, for *they*, and for *them*. This principle is illustrated everywhere, but nowhere better than in the verb *be*; thus *been* (Ger. *bin*.) is often found for *am*, for *be*, for *are*; *was*, L. *esse*, Ger. *wesan, werden, wesende*, is used for *are*, for *were*, for *will*, for the participle, for the infinitive, and for the imperative.

We have found the case-endings to be mere variations of the gender-endings of the nominative; let us now inquire after the relatives of these also. It is a fact, the proof of which we cannot give here, that these endings represent the suffix articles which we find in the Scandinavian, the Albanian, and other languages, developed at the end of nouns; as, in Danish *häst*, horse, *häste*, the horse. With this view, the case-endings become not simply representatives of prepositions, but of cases of the article grown into the appearance of a suffix; thus, *regno* is not merely *to kingdom*, but *to the kingdom*. Another class of representatives of these gender-endings, or suffix articles, are the suffix pronouns which we find in the Semitic and so many other languages; as in Persian, *dil*=heart, *dil-am*=my heart, *padar*=father, *padar-ash*=his father, *kitab*=book, *kitab-at*=thy book. When we bear in mind a fact above all others easy to demonstrate, that our *he, she, and it*, and *this and that*, in all their case and number-forms, are pure definite articles, that they everywhere identify in form with our *the*, and that *thou*, and more remotely *me, is*

demonstrative like *the* and *that* ; when we bear in mind, besides this, that in reading Latin, particularly, we constantly find the personals suppressed, and read *the book* as *his book, her book, my book*, determining this simply from the connexion, we shall not be surprised that the same kinds of endings represent both the article and the personals. And in regard to the article which we find a prefix in some languages, as the Semitic, and a suffix in others, as the Wallachian, and when apart from the noun, sometimes before, as with us, and again following, as in Bulgarian, but always more or less intimately connected with the noun, we venture this hypothesis : that the article is a mere meaningless augment, a growth from the initial or final letters of the word—a method of generation, by the way, by no means confined to this class of words.

Following a similar course of investigation, the student will be able to see that all there is of the verbs is the participle wrought up into different forms, and that the person-endings are simple variations of participle endings, as of the *ans, ant, at*, of the *L. nantis, amatus*. The proof of this is abundant, but it implies a comparative view of many languages, in which we shall often find, with us and in Latin, the participle used as a real verb ; or, as Semitic, we may see it become a verb with endings, as if *aman*—the loving ones, the lovers, should be used for they who love, they love. That the person-endings are all forms of one and the same element, we see by their continual tendency to identity, which in the end, as with us, becomes absolute.

We turn next to a brief consideration of the subject of Etymology. And first of all we may remark, there are quacks in this branch of philology, as indeed there are quacks in every other branch of it, and more of them, no doubt, than you will find elsewhere, for everybody presumes himself thoroughly master of everything that pertains to language. These quacks have brought the subject into some disrepute, but it does not follow that Etymology has no certain foundation. I venture to affirm that Etymology has as many elements of certainty as any other science ; many, surely, as Geology, or Astronomy, or Chemistry, and perhaps as many, too, as Mathematics. I understand very well that you can prove nothing—everything is mere presumption ; even what we see and hear may be, and often is, simply an illusion. You can accumulate a certain amount of evidence, and as much of it in Philology as anywhere else, and the one who examines it will believe it or not, according to his interests, his prejudices, and his education.

Etymology is not as many suppose it, a science of splendid guessing. The thorough and careful philologist does not guess; without any regard to the measure of time and toil, it is he above all other men that will be found to inquire, compare and reason, before he decides. For example, when he asserts as a fact, that the relatives are variations of the personals and demonstratives, as they again are variations of the article, the noun to which they belong being suppressed, and that a very large proportion of our adverbs and conjunctions, and even prepositions, such as *when, how, if, but, at, in*, are obsolete forms of pronouns, lost to us as such, but existing as pronouns elsewhere, he asserts what he can prove, what is uniformly illustrated in every known language, and against which he finds not a single fact militating. Let us see, for illustration, how he shows that the meaningless, and, until its history is known, mysterious word *or* is a pronoun and no more. In French *ou* is both *or* and *where*, and in Italian, *or* is *ovvero*, and *ove* is *where*; but *where* is a pronominal form; the same evidence is in the Greek *ē* and *ἐποῦ*, and Cornish *py*, relatives meaning *or*. Through all the extensive family of German languages, we find *or* in the form of *other, oder*, extending its connexion to L. *aut* and *alter*, Greek *alla*, German *als*, our *else*, Latin *aliquis*, Russian *ili*; but *other*, like its equivalent *either*, is a clear pronoun. Still further, let us see how he traces out the remote relationship between the Latin *qualis*, Spanish *cual*, our *which*, Anglo Saxon *hwilc*, German *welcher*, on one side, and *whole, all*, Greek *cholos*, on the other. Remembering that *qu* is a form of *w*, taking its place in old English, we easily connect *qual, wal*, with our *whole* and *all*. But resemblance in form amounts to little, if we could not also reconcile these apparently strange meanings. Their relationship is thus established: *qualis* is one of the forms of the relative *quasi, qua*. But this relative, in all its varieties, tends to the meaning *all, every*; thus, *qui* is *everyone*, *all*, *quidque* is *everything, all*; and Anglo Saxon *hwilc* has a similar power. Again, *totus, all*, is a form of the pronoun *tantus*, and *tot*, so many; all these are forms, again, of the relative *quot* and *quantus*. The Danish *hver* = *all*, is *huer*, our *where*, a relative, and the Greek relative *ὅπου* means *everywhere* = *all*. Indeed, it would be hard to find any language where, on careful search and proper inquiry, the forms of *ever, every, each, all, whole*, and those of the relative words, do not agree. Mere resemblance in form between two words is, for the philologist, not sufficient; it is evidence to awaken his

suspicious and induce an examination, but it is nothing more. He understands that every word has its history, its earlier and later forms, its relatives which more or less reflect its character. This is the history he carefully examines.

There are many principles which the philologist, after years of toil and research, learns to consider as established, and by these his further progress is more or less guided. Thus, he soon learns, as if by intuition, to strike off certain letters which in comparison with the word in view may be omitted as valueless. So the *s* in *slay*, compared with *lay*, is a prefix; and the *p* in *place* with *lay*; *st* in *stretch* with *reach*; *s* in German *sprechen* with our *preach* and *pray*; *ge* in German *gemein* with our *mean*; *fr* in German *fragen*, the *r* of Latin *rogo*, *br* of our *break*, with our *ask*, Greek *ag*. He learns to group certain words according to their meanings, as all such words as are based on the idea of *cut*, such as *shear*, *shave*, *harp*, *short*, *carve*, *grave*, *scrape*, *scratch*, *ax*, *acid*, *hew*, *hack*, *chop*. Again, he learns as a principle that words of opposite meanings are uniformly formed each of the other, as *right* and *wrong*, *sit* and *stand*, *straight* and *crooked*, *hot* and *cold*, *go* and *come*, *upper* and *under*.

These are only a few of the important principles, a bare beginning of those which guide and govern the true physiologist in his researches. I would be glad to bring forward many more of them, but time is wanting. I can only say in addition, that this branch of the subject is as important and valuable to the student as it is striking and attractive. When we have a comparative view of the forms which a word assumes, and of the changes which it undergoes, together with its different applications in the various languages where it is found, we have what may be called its history, and when we understand fully the history and character of words, we have formed for ourselves the only real foundation for a knowledge of the nature and principles of language.

So far, we have touched upon matter treated of only in the first part of the work under consideration. The second part is devoted to the history of languages considered as individuals. It is based upon the idea that every student who assumes to have a thorough and complete education, should know something about the history and character of all the known languages of the world, precisely on the ground that we expect him to know something of the history and character of the people who use them. That knowledge should be more special and precise, according to the

nearness and importance of the various classes of languages dwelling of course first and longest on the English, bringing i down from the earliest known specimens to those of the present time, passing thence to the German, Scandinavian, Roman and Slavic languages, and going on till we reach the languages of Asia thus continuing till we have included in one comprehensive view all the known languages of the world. This character may be brought out by lists of important and peculiar words, but chiefly by presenting a careful selection of sentences, with literal translations and suitable explanations. These selections give us an idea of the strange conceptions of people, and of the various ways they have of expressing their thoughts. Taken together in one comparative view, commencing with the wildest tongues and ending with the most cultivated, we have in them a history of the progress of thought and of the forms of its expression.

When we bear in mind how few even of our best scholars have any just ideas of the application of the various names of language who do not perhaps know what the term Slavic, or Semitic, or Celtic, includes, and what it does not, who do not know whether Danish is German or Latin in its character, and whether Hungarian is like Russian, or belongs to a class distinct from it, who do not in a word, have any precise notions as to the relations existing between any two tongues save those few usually studied in this country, we certainly shall be indulged in the remark, that it is time that we learned a little, at least, of something else besides Latin and Greek, French and German, Italian and Spanish, and occasionally Hebrew.

ABSTRACT OF REPORTS ON DECIMAL SYSTEMS
OF WEIGHTS AND MEASURES.

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At different times and in different ways the attention of the civilized world has been directed to the difficulties and restraints arising from the imperfect and incongruous systems of weights, measures and currency which have been adopted by various nations, or rather which have grown with their growth. Of late years the petitions for some change which shall afford relief have been numerous and the arguments sustaining them have been unrefuted.

France, in 1790, cast aside, as worse than useless, her time honored systems, and established that which has gradually and surely advanced in favor with all nations. England has not yet made a change so radical, though fully impressed with the defects of her present systems; but she cannot long withstand the current of popular opinion. In 1862 the House of Commons appointed a committee to consider the practicability of adopting a simple and uniform system of weights and measures, with a view, not only to the benefit of her own internal trade, but to facilitate her trade and intercourse with foreign countries. Since then the subject has been ably discussed and its importance more fully appreciated.

In our own country, whose systems of weights and measures are derived from England, the attention of Congress has been called again and again to the necessity for some improvement; and our statesmen, from the time of JOHN QUINCY ADAMS to the present day, have been convinced of the need of some definite action. No discussion is required to impress upon every individual the objections to our present system. Let each man examine for himself the statutes of our own State, and the incongruities of our systems will become apparent to him. Let him call to mind the fact that custom still declares, in many cases, that 16 is a dozen, 112 pounds is a hundred-weight, and 2240 pounds is a ton; let him remember the pains and sorrows of his school days, when

our present tables were to him a stumbling block and a snare ; or even let him, this moment, attempt to reduce Avoirdupois weight to Troy weight, or Wine measure to Dry measure, and he will need no further arguments to convince him that our present systems ought to be abandoned without delay.

The commercial men of England are urgent in their efforts to produce a change. In the report of Mr. RUGGLES nineteen petitions are specified as having been presented by different prominent boards of trade praying for the introduction of a decimal system or the adoption of a metrical system. One of the arguments used in urging the reform will be especially appreciated by this Convocation. Prof. DE MORGAN asserts that "the time devoted to arithmetic might, by the introduction of a decimal system, be reduced by one-half, if not more." Dr. FARR, in his testimony before the committee, said : "You would get rid of all compound arithmetic, and make calculations simple and mechanical." The Rev. ALFRED BARRETT, an instructor of youth for the artillery service, adds his testimony thus : "It appears to me that the work in the French Military Academy is much more forward than ours, and that much of this difference arises from the time of the juvenile pupils being lost in the stupid system of arithmetic which we adopt." He was of opinion that two years might be saved in a course of instruction by the introduction of a decimal system of weights and measures. Lord BROUGHAM, who had collected the opinions of many instructors, arrived at the conclusion that one-third of the time spent in learning arithmetic would be saved by the introduction of a decimal system as proposed. Prof. MILLER, of Cambridge, was asked "Do you find, in the course of your learned pursuits, that our present systems of weights and measures interfere with scientific investigations in any way?" He replied : "Not in the least ; they are so complicated it is quite impossible to use them. The balance makers provide balances made for accurate purposes with decimal weights of some kind."

Our own merchants and scientists have also endeavored to do away with the difficulties which they daily encounter. In 1857 a joint special committee was appointed by the Chamber of Commerce of New York and the American Geographical and Statistical Society, to report on the "extension of the decimal system to weights and measures of the United States ;" and but a few

weeks ago, at the Trade Convention at Detroit, Mr. ALEXANDER presented a report in favor of a decimal system.

As the fact that a change is imperatively demanded is apparent to all who have thought upon the subject, it only remains to decide how that change shall be effected. Two plans have been proposed in England, and also in this country; the first requires the adoption of the metrical system, while the second merely advocates the decimalization of existing legal standards. Before admitting the superiority of either over the other, let us, for a moment, examine the growth and progress of the metrical system.

In France, as in England, the old crumbling and patched system had become so complicated that a change was absolutely demanded. It is unnecessary to refer to what preceded its final and total destruction, and the introduction of the system now firmly established. In 1790 TALLEYRAND presented to the Constituent Assembly of France a proposition to found a new system of weights and measures based upon a single and universal standard. The Assembly requested LOUIS XVI to propose to the British government a joint commission of the Royal Society and the Academy of Sciences to ascertain the natural standard as furnished by the pendulum. This invitation to coöperate was not accepted, and France was left alone to pursue the noble work, until after the plan was fairly developed, Spain, Italy, the Netherlands, Denmark and Sweden joined in the proceedings of the academy in furtherance of the project.

Six distinct operations were to be performed by separate committees of the academy—

1st. The arc of the meridian between Dunkirk and Barcelona was to be measured.

2d. The bases which had served in the measurement of a degree in the construction of a map of France were to be verified.

3d. The series of triangles which had been used in the above measurement were also to be verified and extended to Barcelona.

4th. Experiments were to be made to determine the number of vibrations in a day, of a pendulum equal in length to the ten-millionth part of the arc of the meridian, under certain specified conditions.

5th. By new experiments the weight, in vacuo, of a given quantity of distilled water, at its maximum density, was to be ascertained.

6th. A scale, and tables of equalization between the new measures and weights proposed and those which had been in common use before, were to be prepared.

Such was the labor which the academy proposed for itself, and for seven patient years was the work carried on. The profoundest learning, the keenest observation, the most subtile genius, the most careful judgment, and the most patient toil of the most illustrious philosophers and scientists of France was devoted to the accomplishment of the work which has given to the world the metrical system of weights and measures.

The basis of this system, already in common use by men of science everywhere, is the "Metre," which is one ten-millionth part of the quadrant of the meridian of the earth. Its length is 39.37 inches nearly. From this primary unit are derived the "Litre," the measure of capacity; the "Gramme," or standard of weight; the "Stere," the measure of cubic contents; the "Are," or measure of surface. These units are all decimally multiplied by the prefixes "deca," "hecto," "kilo," and "myria," respectively representing 10-100-1000 and 10000. They are decimally subdivided by the use of the prefixes "deci," "centi," and "milli." Thus, a "hectogramme" means 100 grammes, and a "millimetre" is the one-thousandth part of a metre.

The second plan proposed for adoption is that set forth in the report before alluded to, of the Joint Committee of the Chamber of Commerce and the Geographical Society. It was owing to the previous efforts of MARSHALL LEFFERTS, chairman of this committee, that the plan of Mr. J. H. FELTON, upon which the report is based, was brought to the notice of the public. The proposed plan, as set forth in the report, is as follows: The standards now established by law will remain unchanged, except in the case of the gallon. This measure, the gallon, should contain exactly 10 pounds avoirdupois of distilled water. The wine gallon being too small, and the beer gallon too large, the dry gallon, derived from the New York State bushel, and which exactly fulfills the condition required has been selected.

1st. The standard pound being retained, the following scale is formed:

10 grains	1 scruple.	10 pounds.....	1 stone.
10 scruples.....	1 dram.	10 stones	1 hundred.
10 drams	1 ounce.	10 hundred weight	1 ton.
10 ounces.....	1 pound.		

Here we find the pound and the hundred-weight unchanged, but the other derived units, while they retain old and familiar names, are new and strange.

2d. From the gallon, selected as before stated, this table is formed :

10 grains	1 scruple.	10 pints	1 gallon.
10 scruples	1 dram.	10 gallons	1 anker.
10 drams	1 gill.	10 ankers	1 tun.
10 gills	1 pint.		

Here we have old names ; but every one of the units named differs from those now in use.

3d. The foot is taken as the standard of linear measure, and is thus treated :

10 seconds	1 inch.
10 inches	1 foot.
10 feet	1 rod.

This mode of dealing with the foot is perfectly familiar to all artisans, and would be no novelty. The rod is the largest unit used, because it is very justly urged that, practically, the furlong is obsolete, and the mile is not a measure of commerce.

4th. For land measure we are to have :

10 sq. links	1 sq. staff.	10 sq. plats	1 sq. chain.
10 sq. staffs	1 sq. reed.	10 sq. chains	1 acre.
10 sq. reeds	1 sq. plat.		

In this scale the acre, the chain and the link are of the same value as of old ; and while the other quantities are new, the surveyor is already familiar with their names and their values.

An additional table for numerical reckoning is proposed :

10 units	1 decade.
10 decades	1 hundred.
10 hundreds	1 thousand.

This is to supersede dozens, scores, gross, long hundreds, &c.

Such in outline, are the two systems proposed as substitutes for our present decrepit one. They are both decimal systems, and are thus in conformity with our ordinary system of abstract numbers.

At the outset the French government was not in earnest in its efforts to introduce the metrical system, nor was the nation then prepared to receive it with favor. For a long time it was considered a mere experiment, though in the public works its great advantages were at once recognized. In 1837 a decree was passed

making the use of the system compulsory from January 1, 1840. Since that date the system has been firmly established in the country which gave it birth.

The International Statistical Congress, convened at Paris in 1860, appointed a committee, in which fourteen nations were represented, to consider the subject of an International system of weights and measures. That commission recommended for adoption the metrical system, which has already been introduced, either as a whole, or with some modifications of nomenclature, into Italy, Spain, Portugal, Switzerland, Belgium, the Netherlands, Austria, Bavaria, Wirtemberg and Hamburg. The countries not using it at that date were, Great Britain, the United States, Russia, Norway, Sweden, Denmark, Prussia, and some of the minor states of Europe and America. The nations thus specified as using the system have a population of 139,000,000, while the population of the countries which have not adopted it was 153,000,000. Thus nearly one-half of the civilized people of the globe have acknowledged the superiority of the system. If the United States, having a population of 31,000,000, should also adopt it, a great preponderance would be given in its favor. England has already shown a desire to lay aside national prejudice and join in the onward march of scientific progress.

In July, 1863, a bill was introduced into the House of Commons, adopting the metrical system, which bill rendered the adoption compulsory. In March, 1864, a substitute was offered rendering void the compulsory clause of the bill of the previous year, in other words a legalizing, or permissive bill. This bill was read a second time and committed. At that time various boards of trade, and commercial associations presented petitions praying for the adoption of the French system. In addition to this testimony in its favor, we have the fact that men of science are equally anxious for the change. Prof. WILLIAMS, in behalf of the Chemical Section of the British Association for the Advancement of Science, stated that working chemists were in the habit of using the metrical system in almost all of their experimental operations. Prof. OWEN and Prof. HOFFMAN, gave it as their opinion, that the discordancy in the systems of weights and measures of different countries is so great, and so much time and labor is required to convert one system into another, that practically the knowledge of one nation was a sealed book to the students of another.

I can not refrain from again quoting that oft quoted passage from ADAMS' Report, in which he speaks of the merits of the French system. "If man upon earth be an improvable being; if that universal peace which was the object of a Savior's mission, which is the desire of the philosopher, the longing of the philanthropist, the trembling hope of the Christian, is a blessing to which the futurity of mortal man has a claim of more than mortal promise; if the spirit of evil is, before the final consummation of things, to be cast down from his dominion over men, and bound the chains of a thousand years, the foretaste here of man's eternal felicity; then this system of common instruments, to accomplish all the changes of social and friendly commerce, will furnish the links of sympathy between the inhabitants of the most distant regions; the metre will surround the globe in use as well in multiplied extension; and one language of weights and measures will be spoken from the equator to the poles."

Some of the most common objections to the system are, a supposed difficulty in the introduction of new terms, and the embarrassment to which the change of units must subject dealers.

In one report this statement is made, referring to the founders of the system: "Their next error was to describe these new quantities by names that formed no part of the vernacular, and such as were only intelligible to those who were acquainted with Latin and Greek." Did the writer mean that we should believe that those who daily use our present names of weights and measures are fully conversant with their original derivation and significance? Do we not all recognize the fact that these names are as unmeaning in themselves, to the masses who use them, as are the terms of the metrical system? If the one set of names has been learned, why may not the other also? The word *metre* is suggestive of *measure*; the term *grain* resembles *gramme* sufficiently to prevent us from forgetting that the latter is a weight; *are* is suggested by *acre*; and by a slight effort we can associate *litre* with *liquid*. Is there any difficulty with the prefixes; "*deci*, *centi*, and *milli*" are fixed in the memory by *dime*, *cent*, and *mill*; and in the ascending scale we have only to remember that *hecto* and *hundred* both begin with *h*, while *myria* and *myriad* denote the greatest number, and then *deca* and *kilo* fall at once into their proper places. It seems that too great stress has been laid upon this difficulty. It is not easy to discover how the mere decimalizing of our present standards obviates the second objection. In the system

proposed as a substitute for the metrical, only six of the quantities in present use remain unaltered, namely, the pound, hundred-weight, foot, link, chain and acre; while twenty-two new units are introduced, all differing from any now in use, though most are disguised under old names. Will not the decimalizing of our present standards also produce inconvenience to the trader? If these six unchanged units be also done away, and the French system be adopted entire, will not the resultant good more than balance the little inconvenience added to that which must be endured in any change whatever?

It is sometimes urged that the system has never prevailed even in France itself, because the common people still retain their old names and units. Has our decimal system of currency failed because the small shopkeeper insists upon charging us "one and sixpence" for what we buy? Does the fact that any foreigner may hear the daily use of the expressions "six shillings," "three and sixpence," &c., warrant him in drawing the conclusion that our decimal currency is not yet thoroughly established among us?

Although I would defer to the practical experience of business men, and to the wisdom of political economists, should they decide that the metrical system is inferior to the merely decimal system as proposed, yet until that decision is unanimously expressed, I must maintain my present faith in that system which, sooner or later, must become the system of the world. I would, therefore, urge upon the Convocation that it should take the first step in preparing for the coming change by advocating the introduction of the metrical system into our schools. Let authors of our arithmetics be urged to provide for the suitable instruction of their pupils in the system. It is true that many writers do place the French tables among the tables of weights and measures; but no special reference is made to them, nor have examples for practice in passing from our own to the French system been constructed. I would suggest a change in this matter, so that the pupil may be enabled to understand fully both systems; and then, in a few years, those into whose charge must pass the affairs of the business world will be competent to judge for themselves which is the better system, and to make the inevitable change with comparatively little inconvenience.

In the meantime let this Convocation add the weight of its influence to secure some action on the part of Congress which *shall* result in the speedy improvement of our present sys-

tems, either by the temporary relief of decimalizing our present standards, or better and wiser still, by adopting that system which is steadily growing in favor with all nations. Do not let years more be wasted in receiving reports and mere resolutions ; we have enough of both already for any practical purpose ; let use be made of them, and with faith in the wisdom and sound judgment of their authors, let some ACTION be based upon them.

THE STUDY OF ENGLISH GRAMMAR.

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In the study of English Grammar, it is of great importance that the definitions should be of the best kind. Let us consider,

FIRST. What are the requisites for a good definition?

1. A good definition should be accurate. In some grammars, we find it stated that "A letter is a mark or character, used to represent an elementary sound of the human voice." But *x* certainly is not supposed to represent an *elementary* sound; therefore, according to this definition, *x* is not a letter. Again, it is frequently stated, that "A letter is a *character*," "A syllable is a *sound*;" and, still, that "Letters form syllables." These definitions would better be as follows: "A *letter* is an alphabetic character used to represent a sound of the human voice." "A *spoken syllable* is an articulate sound uttered by one impulse of the voice." "A *written syllable* is one or more letters representing a spoken syllable."

In a popular grammatical work it is stated that "Language is any means of communicating thought, feeling or purpose;" that "Smiling, frowning, laughing, weeping, are instances of natural language;" and that "Grammar is the science of Language." Evidently, then, according to this authority, a complete grammar should contain instruction upon these various kinds of natural language.

2. As far as is consistent with accuracy, a good definition should be brief. In the grammar just referred to, we find the following definitions: "Grammar is the science of language." "English Grammar is the science which investigates the principles and determines the proper construction of the English language."

Now, if it is sufficient to say that "Grammar is the science of language," it should be thought sufficient to say, "English Grammar is the science of the English language."

3. As far as accuracy and brevity will permit, the various definitions should be worded alike. Take, for example, the following: "A *noun* is a word used as a name." "A *pronoun* is a word used

instead of a noun." "An adjective is a word used to qualify or limit a noun or pronoun." "A verb is a word used to express the act, being, or state of its subject." Here the similarity of wording makes the definitions easier to commit.

In connection with this subject of definitions, we ought to remember that definitions should be immediately followed by examples which the student should carefully repeat, the example being in many instances the clearest proof that the student understands the definition.

SECONDLY. It is of great importance that we admit this fundamental doctrine, that "According to their *meaning* and *use*, words are divided into different classes called Parts of Speech." From this doctrine it results that a word that performs two distinct and important offices at the same time, should be parsed in full as two parts of speech. Grammarians have frequently recognized the double office of words, but they have failed to *parse in full one word as performing two distinct offices, and therefore being really two parts of speech.*

In the sentence, "I see the horse now running rapidly," the word *running* should be parsed thus: "Running is a verb, intransitive, irregular, participial mood, present tense; it is also an adjective, limiting, pure, limiting the noun *horse*."

In the sentence, "John's cutting this wood so fast is foolish," the word *cutting* should be parsed thus: "Cutting is a verb, transitive, irregular, active voice, participial mood, present tense; it is also a noun, common, neuter, third, singular, nominative, grammatical subject of the verb *is*." This word has every essential attribute of a verb, and every attribute of a noun. It will be most clearly understood, not by giving it a separate name, *participle*, and then leaving it half explained, but by parsing it in full in both its offices.

THIRDLY. The rules of Syntax are, in general, merely re-statements of the definitions of Etymology, thus:

Definition. "The nominative case denotes the relation of a subject to a finite verb." Rule. "The subject of a finite verb must be in the nominative case." Definition. "An adverb is a word used to modify a verb, an adjective or another adverb." Rule. "Adverbs modify verbs, adjectives and other adverbs."

Etymology and Syntax cannot always be separately treated. The part of speech to which a word may belong, depends frequently upon the *relation* of that word to other words. But

Syntax is the part of grammar that treats of the *relation* of words; hence the naming of the part of speech, the first thing to be done in Etymology, requires often a knowledge of Syntax.

FOURTHLY. An invariable order should be observed in parsing. This will accustom the mind to an exact and uniform method, which is every way desirable for clearness of statement and for sound mental discipline. It is best always in parsing, to name first the part of speech. Thus, we should not say "*Cutting* is an irregular, active, transitive verb,," but "*Cutting* is a verb, transitive, irregular, active, &c."

FIFTHLY. Since grammar is "the *art* of speaking and writing correctly," the greatest pains should be taken to exercise the pupil frequently in writing and in speaking. In regard to this point, there has been much error of practice. It is very common for teachers to keep the scholar through his entire grammatical course employed in committing definitions, analyzing sentences and parsing words. It would be wiser to introduce frequent written exercises, especially those that are needful in daily life, such as letters, &c.

SIXTHLY. The best authors should be read by the student, that he may thus insensibly acquire a grace and refinement of expression which no arbitrary rules can give. The study of the great masters of language will animate the student amid those necessary toils that otherwise would be intolerably irksome; and on the broad foundation of grammatical truth may fitly rise the temple of Eloquence and Song.

THE VALUE AND MEANS OF LITERARY CULTURE IN ACADEMIES.

BY O. ROOT, JR., A. M.

Principal of Rome Academy.

ALTHOUGH in our land and time every one acknowledges the importance and value of education, yet there are very many who would be somewhat puzzled to name any very definite gains above and beyond the paltry advantages of knowledge as a money-making power. Almost all academy teachers have, doubtless, noticed with what a maze of uncertainty, or even oft-expressed reluctance many parents find their children stepping beyond the bounds of the lowest practicality in their studies. To talk straight (not well), to write legibly, to figure in currency and interest, to speak understandingly and read intelligibly, these are all that very many deem to be important or at all necessary for practical life. They lose sight of a broader view to be seen, even from their own standpoint. The power of control, mental vigor, which gives mental command, a knowledge of natural laws and forces, ability for arrangement and analysis, may be made to earn money as well as win fame. The nobler considerations seen from a higher standpoint these never know at all. They never think of the myriads of influences flowing out from a cultured educated mind, and the myriads of pleasures flowing in for such a mind from all things and thoughts of beauty and of power.

THIS lack of estimation should, however, in no wise affect our efforts towards elevating the standard of education and culture. Among the accomplishments practically least estimated and really least considered by teachers as well as parents, is the study of English literature, the cultivation of sound literary taste, and the pointing and mapping out of the paths so delightful in our English author-realm.

OF the value of literary taste and culture in promoting happiness and usefulness in life, much might, but surely little need be written. Every one will acknowledge the important place which conversation holds in forming opinion and guiding action; and all must also concede the value of literary acquirements, a familiarity with the best authors and their thoughts, in the formation of

good conversationist. American men and women need good literary taste as a means of promoting their own culture and thus their usefulness. Where society is so free as here and its membership so constantly receiving accessions from those before in lower grades, there are many opportunities for conversational influence. The women of society should be not mere chatterers of small talk, but able to give thought for thought on all the subjects of human acting and living; they should be able to illustrate and enliven all subjects with reference, quotation and comparison, and exchange their cultured for the business man's practical thoughts and words. This culture is also needed as a means of influence in households. The husband may and should be refreshed on his return to the home circle by meeting not merely caresses and endearments, the sugared toys of domesticity, but fresh thoughts in fresh words, thoughts and words different from those of his daily jarring business life, coming from another sphere. The merchant, lawyer and mechanic will go to the lecture room and listen eagerly to the glowing words of the literary lecturer. Would they not enjoy some of the same food at the fireside? With the children, too, this culture would avail. Are there any resources more crowded with subjects of interest for the young, and fuller of means for their instruction than those of English literature? The poets, historians and essayists furnish themes and chapters which would do far better service than much which is said to be especially adapted to youth. A taste for good reading in the young is one of the safeguards against exposure to the manifold temptations so rife everywhere. Said a good lady, who had reared a family, to me not long since: "We have never talked much at home of men or books, or practical living, and I do now so much regret it." She realized that the constant dropping of good and pleasant thoughts in daily conversation may be, unawares, sowing of precious seed. I recognize as one of the leading influences of my own life the table talk of literary and well informed gentlemen. This taste for good reading is needed more than all as a resource in hours of leisure, as a means of relaxation after worrying cares, and a never failing source of happiness. With how many is it true that there are no sources of pleasure outside the duties which are daily to be performed? What proportion of the women—even so called educated women of the land—partake of those delights which are drawn in pure beauty from the realm of fancy and of *thought*? It is not at all necessary that the reading should be

constant ; that there should be a blue stocking cast over everything in the mansion. Books once well read leave their impress on the mind and leave also food for future thought and thus for future pleasure. Even the mother of a family may find some time for reading, or if not for much reading, for a great deal of pleasant and profitable thinking. If the taste existed, some pleasures now eagerly sought might be abandoned for the more quiet but higher and purer ones of thought. The novel reading mania of the day, the trash and worse than trash that pours from the press, fills the bookstores and is found in nine parlors out of ten, proves that people read. But for all that they are not literary. Nor is it altogether the fault of the people. They have been taught no better. The most have never had pointed out to them the really pleasant paths of English literature ; and if they had the will would not know where to look for works of standard merit and universal interest. How many scholars go out from our academies with hardly an idea of the wealth of pleasure and of profit in our language, with no knowledge of its authors save a smattering of the popular poets, with no taste or desire for aught but the current, merely surface, social novels of the day ! • I do not intend a tirade upon novel writing or reading, for I hold them good in their place and way and moderate measure ; but I do believe that many a noble girlhood is diluted and fermented into a sickly, worthless womanhood by an overplus of novels and a lack of proper mental food. The well taught and disciplined mind, after the course usual in our academies, feels the need of food for the mind ; there is a craving for something to fill the thoughts and occupy the fancy. Where to find it ? The monthly and weekly story-tellers, GODEY, PETERSON, BALLOU, are first at hand ; and at the bookstores, in fresh binding and good type, on the front counter, are found a number of novels with alliterative and romantically suggestive names, and thus paste, sugared nothings, whipped syllabubs, are taken for food. Then follow mental dyspepsia or torpor and bile. No wonder ! If we dosed our stomachs as we do our brains, all pharmacy would not furnish drugs to keep them in order. If for these works of emptiness were substituted really good books, including novels with a purpose, novels that teach something besides flippery in dress and manner and feeling, there might be a vast improvement in the tone and influences of society. If the boys who go from our academies to work at plow or anvil, in counting room or office, read MACAULEY or BROWNING, PRESCOTT

and BRYANT, rather than Dime Novels and Ledgers, would not their happiness be greater as well as higher, their views of life truer, their influence nobler? And they may read the one as well as the other if the right influences be brought to bear upon their wills at the right time.

But is not all done now that can be done in the time devoted by most persons to school work? I think not. In very many of our schools no account whatever is made of this important matter, and often when there is an attempt it is rendered futile because of a lack of proper appliances to give life and interest. With the present system, we know that few comparatively have any taste for good reading; our effort should be so to change the system as to produce a change in the results. A prime necessity for the introduction of this as well as other important studies now neglected is progressive organization. Our schools should be graded so that pupils after due familiarity with one study shall advance, of course, to a higher. Much valuable time is wasted by a treadmill mind, while interest is lost, and all study becomes mechanical. By right arrangement the three or four years between fourteen or fifteen and eighteen may be made to include much more than they now do. By thoroughness in instruction and gradation of studies time enough may be saved for the study not only of English literature, but of botany, geology and other sciences. Nor is it at all necessary that other studies should be cramped or laid aside; much may be done in connection with them and thereby an added interest given to all school work.

But what specific means are to be used to accomplish the end desired? The one most naturally suggesting itself is the study of some compendium or published lectures upon English literature. This can be made a source of great profit as a discipline, as well as for information. There is danger, however, of losing interest in the discussion of authors, uninteresting to young minds, but necessary to a full view of the subject. Masses of details are always a puzzle and a discouragement to school classes. The effort to arrange and classify is too great for minds partially disciplined, and in the effort of memory to retain, confusion will often occur. Confusion once introduced renders doubly difficult clearing up, and interest once lost is hard to be again excited. Much effort would doubtless be required on the part of the teacher to *prevent confusion* and this loss of interest. There is, so far as I *know*, no really first-rate text book for academy classes upon this

subject. CLEVELAND's Compendium furnishes too little in the way of history and criticism; SPALDING is too minute and often dry; REED is out of print.

Another means which—if I may be allowed to advert to my own experience—may be used with success is giving lectures or talks upon the subject of English literature and authors. I introduced this plan in my own school, giving half-hour talks every afternoon. Opening with a brief analysis of the elements which went to form our language and a rapid survey of the earlier stages of literature in England, I brought the subject to the time of CHAUCER, with no effort at details or accurate criticism. From CHAUCER, to whom one talk was devoted, I transferred the class to the Elizabethan age, and discussed the times and authors, selecting those who were leaders, marked men, having a fame as enduring as the tongue they spoke. It was not at all difficult to awaken the enthusiasm of the class with a theme so full of all that is glorious. Thus, occupying more or less time with each author according to the place held in our literature and the present interest attaching to his works, I brought the subject to the present century in three-fourths of a term of fourteen weeks. A course of lectures like this requires of necessity much reading and a large expenditure of time for the first course. But the pleasure and profit for the instructor himself will amply repay him for all exertions. Although it was not my own course, yet I have no doubt that written lectures would have been more valuable to the class and certainly more permanently useful for the teacher. Another means of developing a taste for good reading may be found in society organizations. These are common in our schools and are called literary societies, but are more frequently merely debating clubs (that is, those formed by young men), which too often do little beyond developing what is called "gift of the gab," or the use of words as ends, not means, of expression. By the unobtrusive agency of the teacher these societies could be made really literary, stimulating research, reading and thought as well as expression. Such societies, when formed among the young ladies of a school, are more often truly literary; and I am aware of several which exert a vast influence in the way of literary culture in the schools where they are located. The "Barrett Brown Society" of Houghton Seminary and the "Ingelow Club" of Rome Academy are good examples.

The rhetorical exercises of the school may be made another means of inducing good literary taste. Scholars should be encouraged

aged to write upon themes which require investigation, and should be pointed to the books whence information may be obtained. There is, indeed, much positive injury often mingled with the good of these exercises through the careless neglect of teachers or their encouragement of improper subjects and styles of composition. The school essay is of greater importance than may sometimes be thought, as it occupies the mind often for days and goes to form the mode of thinking. It also influences the entire school if well written and read. The conversation of the teacher will also, in a quiet way, exert a vast influence. A good teacher, as the pupils are met from day to day, will learn to what purpose the leisure hours are used, will advise proper amusements and encourage good reading directly by precept and indirectly by his very conversation.

Lastly, as a necessity, every institution should possess a good library—good for reading as well as reference. A school library should contain not only books valuable for their information but those of literary worth. When the taste for reading is once rightly formed, there can be found generally in this land means to satisfy it. The first thing is to form such a taste, and for this, interesting books, books which will charm as well as teach, are necessary. CHARLES LAMB'S and LEIGH HUNT'S delightful essays and letters; IRVING'S sketches; IK. MARVELL'S pleasant fancies; COOPER'S truthful descriptions; SCOTT'S spirited historical romances; MACKENZIE, TALFOURD, WILSON, HAWTHORNE, BROWN, HUGHES, HUGH MILLER, are as valuable as can be any authors, however full of facts. Men and women may begin very young to learn that there is goodness and beauty and truth in thought higher and more lasting than in anything material and tangible. Unless the teacher has at hand means for satisfying the desires he may excite, his work will be of comparatively little worth.

Every teacher while laboring earnestly for thoroughness in the ordinary English branches, in the mathematics, classics and sciences, should keep in view the awakening of a taste for future acquirements, for good reading and standard literature. While in many, perhaps most cases, there will be no apparent result, yet the work cannot fail, if well done, of some success; and there will spring up harvests of happiness from seeds thus sown. The end to be reached being not immediate and the means being so much in the teacher, no positive enactment may reach the case. It may be hoped, however, that the attention of teachers will be more called *to this matter*. If this brief and desultory essay shall at all bring *the subject* to the notice of this Convocation its end will be *accomplished*.

NORMAL DEPARTMENTS IN ACADEMIES.

BY M. WEED, A. M.

Principal of Middlebury Academy.

THE paper now to be read was prepared by a man *under authority* at the kind suggestion of another man *in authority*. I it accomplish, even in small part, its purpose, half the credit may go to the latter on condition that, if it fail, he will share with it author the discredit. Its end will be chiefly attained if it serve to awaken discussion and elicit argument on the topic to which it relates.

The educational system of the Empire State is broad, comprehensive and symmetrical. At the foundation we have the common school. Next in order is the academy; and, surmounting these the college and the incipient university. Neither, of itself, has full vitality.

"If the foot shall say, 'because I am not the hand I am not of the body,' is it, therefore, not of the body?" "And if the ear shall say, 'because I am not the eye I am not of the body,' is it therefore, not of the body?" "The eye cannot say unto the hand 'I have no need of thee;' nor again the head to the feet, 'I have no need of you.'"

Our fathers, some of whom "still live" to behold the waving harvests on the fields they sowed so long ago, saw it was not good that either part of the great whole should be left alone. With wide-handed beneficence, therefore, and with wisest forecast, they reduced, so far as it is possible, the trinity of form into unity of fact—oneness of purpose and of action.

When this grand system of culture shall be worked up, even approximately, to the full limits of its capacity, it will be found so complete as to prove itself adequate to meet the largest desires and necessities of our great and growing population.

Twenty years ago, "the late Hon. HORACE MANN and Hon. HENRY BARNARD, two among the highest authorities in this country respecting any question of education, both gave it as their opinion, that the State of New York was carrying on the work of

education more rapidly than any other State in the Union, or any other country in the world." That opinion has never been recalled. It has never been challenged. Nor is it an assumption to say that more united purpose, resulting in greater unity of action on the part of those who have the official control of our education interests, together with fresher and more undivided, more energetic work, strongly verifies and justifies this high encomium.

Of the 1,300,000 persons in our State between four and twenty-one years of age, nearly 900,000 attend the common school. Here they receive the elements of education. Here, for all of life's high duties, the great mass of our youth receive their entire mental training. Only 35,000 members are found in our academies, and less than 2,700 in all our colleges.

The common school has two distinct and well defined duties before it. First and chiefly, it is to educate, as its expansive capacity under the fostering care of wise official direction enabled and requires it to do, the great majority of the people who constitute the State. Secondly, it is the manifest duty of the common school to lay broad and deep the foundations for all academic and collegiate studies and attainments. The aspirant for high attainments has generally nowhere else to resort. He can find no other and surely no better place for his first preparatory work, than the well-regulated, well-instructed public school. Common sense, the rarest and best sense in the world, if one lack this all-essential commodity, can nowhere else more thoroughly and certainly be attained than here. And, if the writer has not wholly misapprehended the facts in the case, those who have generally been kept aloof from contact and companionship with their fellow youth, do often discover in later life a fatal lack of that practical tact which always marks the controlling mind. DANIEL WEBSTER tersely said: "If I had as many sons as old PRIAM I would send them all to the common schools."

Of the academy, one duty is to elevate to a yet higher standard of science and learning the little few whose laudable ambition and noble desires, kindled and fanned into flame by the common school, will not suffer them to linger just around the foot of the "Hill of Science." A second duty is to prepare for the college the literary elect, whom the curriculum of the best academy in its best estate cannot exalt to the loftiest realms of erudition.

The college with its special departments and the university proper are to crown and complete the work—to lay the topston

Trace we now the backward chain of relations ; the reflex current of influence flowing from the summit above to the vale below. While the college imparts a many-sided, liberal education, and in many instances, by its supplementary departments, prepares its graduates for professional life, it must still, in the main, furnish the head men to all our academic institutions. None unfamiliar with the highest walks, the most secret mazes of Academus' sacred shade, can rightly guide the footsteps of his pupils thitherward. To these exalted sources of learning, therefore, we have an undoubted right to look, we must look for the men most eminently qualified to train the more youthful pupil—the more tender plant. "All good teaching," says a well known co-laborer in our educational work, "must flow from copious knowledge." The statement is as true as an axiom. Give ARNOLDS to these Regents for our academies and they in turn will plant RUGBYS wheresoever suitable soil can be found. Smite the rock high : the fountain will gush with corresponding flow.

In the good time coming, when the hearts of the fathers are turned more fully to the education of their children, a normal department on the grandest scale will be needed in the widening range of our university studies. If teaching, like divinity, law and medicine, come to hold a fixed rank among the learned professions, the need will be imperative ; and it must certainly be met. To such a high estate educational labor seems now to be assuredly tending. To this opinion the North American Review lends the weighty sanction of its deliberate judgment : "To this complexion may it come at length."

If the academy is right in asserting this claim upon the colleges, still more is the common school justified in demanding of the academy kindred aid and support. We come, then, to the "point proposed"—"Teachers' Departments in our Academies."

Perhaps no single progressive idea in matters of education for many years past would be found, on strictest examination, to have been more important and valuable than the conception of Normal establishments. And, although that conception, like all other pioneer thoughts, met apathy and opposition, and temporary defeat at first, yet to-day it has worked itself out into clear upper air. *Per ardua ad astra*. It was a just conception ; a right thought ; and it has conquered.

A careful inspection of the published reports of the Regents discloses the fact that as early as 1827 the plan for teachers

departments in the academies had begun to assume definite form and features. In the report of 1828 the matter is thus beautifully and gratefully referred to by our venerable friend, Mr. HAWLEY, formerly for many years Secretary of the Board of Regents :

“Such being the present number, state and condition of the academies throughout the country, they have become, in the opinion of the Regents, what it has been always desirable they should be, fit seminaries for imparting instruction in the higher branches of English education, and especially for qualifying teachers of common schools, as well as for preparing students in classic studies preliminary to a college course. For this elevation and degree of usefulness to which our academies have thus happily attained they are chiefly indebted to the munificence of the Legislature : first, in the original establishment of the Literature Fund for the special encouragement of these institutions ; and next, in the gradual increase of that fund, from time to time, until by the extraordinary and most liberal endowment of \$150,000, made by the act of April last, the fund has become of such magnitude as to enable the Regents to distribute to every academy entitled to participate in it a dividend sufficient, with the aid of ordinary tuition money and other revenues, to secure the services of the most able teachers, and thereby to enable the several institutions to fulfill all the beneficial ends for which they were established. The Regents, in behalf of these institutions which they are happy on this occasion to represent, tender to the Legislature their grateful acknowledgment of its bountiful munificence in providing such ample means for promoting the cause of science and general education, and securing their permanent prosperity.

“The Legislature having, by the act before referred to, declared it to be one of their primary objects, in the great increase made by them of the literature fund, ‘to promote the education of teachers,’ the Regents, equally with the Legislature, being impressed with a sense of the paramount importance of this object, will always cheerfully co-operate in promoting its speedy accomplishment.”

In the next report the secretary held the following language “In thus presenting to the Legislature the condition of the academies it is obvious to remark that the parental care of the government has never been more usefully applied than in rearing up and fostering these numerous and valuable establishments. It is impossible to calculate the amount of good which must result

the general diffusion of knowledge produced by their operations, especially when it is considered that many of the pupils educated in the academies are intended themselves to become instructors of youth in the common schools. The benefits heretofore anticipated in this respect are beginning to be realized; the academies are annually sending forth well instructed teachers, and there is every reason to hope for a gradual but constant improvement in the means of general education."

In the reports of 1830 and 1831 the seed-thoughts already sown were left to warm and germinate. No reference is made to the matter. In the succeeding report a very compact *resumé* of our educational matters is made the basis of an unanswerable argument in favor of the general establishment of teachers' departments in our academies. The suggestions and arguments of Mr. LAWLEY had already taken deep root in the public mind. The St. Lawrence Academy—long may she flourish—had embodied in thought in action. At this early date, in advance of all positive legislation on the subject, prior to any direction on the part of the Regents, she had established a large and very successful teachers' department, having about eighty teachers during the previous year. The Canandaigua Academy also had organized a teachers' department. Near the close of his argument above referred to, the Hon. Secretary said: "The Regents are decidedly of the opinion that the academies are the proper instruments for accomplishing the great object of supplying the common schools with teachers." He sharpened his trenchant logic into a two-edged sword, and cuts in both directions when he continues: "By engrafting upon the course of studies a department of instruction in the principles of teaching, the respectability and capacities of the institutions themselves will be increased. In every point of view," says he, "it is conceived that this is the most advisable method of preparing instructors."

It is clear as the light from his repeated references to the subject, both in preceding and succeeding reports, that our honored Secretary "meant to work it out on that line" if it took him all his life. This intention was sincere, patriotic, noble. His ardor was the ardor of conviction.

Forty years too early had passed from the birth of our educational system before any great legislative act had set its seal upon the scheme. April 13, 1827, an act was passed adding to the capital of the State the fund, as we have seen, the sum of \$150,000;

and one avowed object of the law, in its own language, was "to promote the education of teachers." Did this noble deed originate *de novo* with Legislature itself? Or had Mr. HAWLEY and his co-workers made the whole matter so plain, had they been so clear in their great arguments, that they had only to ask and it was done according to their large request? Eight years afterwards, in 1835—some records say in 1834—a law was passed providing for the legalized establishment of teachers' departments in eight academies, one in each senatorial district of the State. Erasmus Hall Academy, Montgomery, Kinderhook, St. Lawrence, Fairfield, Oxford, Canandaigua and Middlebury Academies were honored with the appointments.

In 1844, our State Normal School was established and went into successful operation. And thus again the good work of preparing instructors for our 12,000 public schools was both enlarged in its scope and dignified in its character.

With ebb and flow our Normal work proceeded—the tide now weak, now strong—until in April, 1855, legislative action assumed a form that promised more stability and larger success than had heretofore resulted from any plan of operation. The material aid is furnished by the State. The Regents select the academy in which the special department shall be established. They prescribe the course of study. They ascertain how well or ill the duty assigned to such academies is accomplished. They, at option, vary their selection. In short, while the provisions of the act are quite general, the Regents are very wisely charged with the duty of rendering those provisions as effective as is in their power to do. This plan, so flexible as to adapt itself to the varying needs of different communities, and to changing exigencies that may arise, and yet so well defined under the executive direction of the Regents, seems, for the last ten years, to have resulted in growing satisfaction on every hand. By this plan each academy, every board of trustees and every principal of our academies is judged by the standard of intrinsic merit. Wherever fidelity and ability appear in the resultant effects, the appointments are not often changed. Wherever such fidelity and skill do not appear, wherever the class is filled to its maximum limit only by eloquent electioneering—the writer has been compelled to know of such a case—wherever the "appropriation" seems to be the chief argument, the eraseless mark of CAIN should be remorselessly branded on the school and all its unworthy managers. Such cases are doubtless the rare

exception. In the main the appointment is honorably met, and the pecuniary reward is dearly and severely earned. The harsh censure of earlier days—sometimes deserved, perhaps—that these departments are so many sinecures, by means of which an unprincipled principal, or other teacher, gets money that he never earned, is now rarely heard. Only persons afflicted with severe forms of mental and moral strabismus, who are unable to see more than one side of a subject at a time, now utter these unjust and cruel objurgations. The current sets the other way. The Secretary of the Regents and the Superintendent of Public Instruction have both borne emphatic testimony to the increasing vitality and efficiency of these Normal departments. Even twenty-five years ago, Mr. WOOLWORTH, then principal of Cortland Academy, wrote thus: "The trustees have no doubt of the favorable influence which the department (in this academy) is calculated to exert on the character of common schools."

Twenty-seven years ago, Middlebury Academy reported as follows: "The trustees are of the opinion that the organization of the department for the education of teachers of common schools in this institution, in pursuance of the recommendation of the Regents, has had a highly beneficial tendency upon the general interests of the academy, a good effect upon the public mind, and a salutary influence upon the character of common schools in this vicinity." Such quotations might be multiplied indefinitely. But this is neither necessary nor to our purpose. Of one academy in which, during most of the time for thirty years past, a teachers' department has been continuously maintained generally by State authority, but sometimes without, a competent school commissioner has averred that "— Academy is doing more for common schools, in the way of giving a thorough course of instruction to teachers' classes, than all the select and academic schools in the county." None, however, can pretend to claim that the great work as yet approximates the goal of perfection. It is in its infancy. Here, as in all that is good, we must learn to labor and wait.

In severe physical maladies we wisely seek aid from the skilled physician and surgeon. Three months or less at anatomy, physiology and hygiene, a single week, shortened at each end, at a medical convention, and corresponding attainments in surgery, could by no means satisfy us when health and life itself are imperilled.

The protracted preparation demanded in a legal education is not generally deemed too long or too exacting. If the experienced jurist bring any complaint against his early training, it will be more likely be that its period was too brief; that it was not sufficiently thorough and comprehensive. More such elementary training would have lifted him to Mr. WEBSTER's "upper story," where there is room enough and to spare.

Ten full years of preliminary study are allotted to him who proposes to minister at the altar of religion. Is there, in any quarter, any indication of a purpose or desire, even on the part of the divine himself, to abridge the work of preparation?

And can a valid reason of any kind be urged why the teacher of our children may enter on their undertaking with indifferent qualifications? Can any ingenious plea justify a purpose so strange, so unnatural, so unworthy? Rather increase, many fold, the means and aids for preparation, and insist, in every case, on their diligent use by the candidate for the teacher's chair.

Of the Teachers' Institute, the Association, and other educational appliances, it comes not within the province of this paper to treat. Their success depends chiefly upon the skill and ability of those who control them. They are doing great good.

The methods and measures to be employed in the Normal departments of our academies will doubtless be considered in the "discussions" provided for in the general programme of the Convocation. Thoroughness, more rigid, more exacting, should undoubtedly characterize all that is done, all that is undertaken, all that is proposed in the great white field before us.

The high purpose of the State in providing such ample and such varied means of education is largely and wisely benevolent. And this benevolence is designed not to benefit some favorite institution of learning, some eminent educator (though every successful benefactor deserves vastly more than he ever receives), not some board of trustees, not even some indigent student, however worthy, but the future state itself, generations of men yet to be—mankind at large—ages remote. Its philanthropic aim is to accomplish the greatest possible good for the greatest possible number. No personal or local interest may, therefore, rightly intervene between the State and the great good to be attained.

At the close of the Regents' Report of 1832 the secretary wisely says: "When these institutions (the academies) shall send forth a regular supply of well qualified instructors, an object which they

(the Regents) hope to see accomplished by a union of the same munificent policy which has heretofore guided the councils of the State, with the liberal spirit which has animated the people, our system of elementary instruction will be complete, and in this department the government will, by contributing to close up the sources of ignorance and vice, have done all that properly falls to its province to give strength and duration to our civil liberties."

See that gushing spring on the mountain side. Watch its winding course adown the slope. Observe the line of living green that marks its pathway across the meadow. It tells no vocal tale of all the good it does. Such footprints the faithful teacher leaves all along the path he treads. When every aid is proffered and improved he still will feel, alas! that imperfection stamps itself on all the labor of his hands. None can wish so earnestly as he that all his work were better done.

ART STUDIES IN ACADEMIES AND COLLEGES.

BY C. W. BENNETT, A. M.

Principal of Genesee Wesleyan Seminary.

The natural and philosophical arrangement of an academic and collegiate curriculum is a problem that has employed the thoughts of our best educators. Solutions have been various. To be impartial, is the difficulty. Our educational plans are influenced largely by our peculiar tastes and mental characteristics. Favorite studies will be made unduly prominent; while the utility of others may be almost totally denied. No ordinary labor, therefore, is involved in candidly estimating the educating power of each department and in bringing forth from these competing and seemingly conflicting elements, a harmonious and even unifying whole.

The great multiplicity of subjects that crowd upon our attention constitutes another chief difficulty. While each may be valuable, there is not time for all. The limited period during which we can hold students, necessitates an elective course. Some subjects of study must, therefore, be omitted.

But after patient investigation, I am convinced that in all our academic and collegiate institutions, "Art Studies" are too much neglected.

The utility of Mathematics, of Language, of Physics, and of Metaphysics in its sterner departments, finds earnest advocates; but the cultivation of taste, the education and direction of the sense of the beautiful, have not assumed that prominence in our "courses of study" that their importance demands.

By the "Fine Arts" we generally understand poetry, music, painting, sculpture, ornamental architecture and landscape gardening. The first two are recognized and studied, to some extent, in our schools; while the last four, in their principles and history, are almost wholly neglected. True, rhetoric has to do largely with the æsthetical, and it is assumed to be studied quite generally. But I greatly doubt if the tendency of the tuition given, even in this subject, is to purify and refine the taste,—whether there is generally awakened the idea that the student is pursuing æstheti-

investigations at all; and much more do I doubt if he comes from this study more alive to the beautiful, even in literature. The nature is not rendered more keenly sensitive—his own soul does not become more harmonious—works of art are as meaningless as before.

From this neglect we should naturally infer the low value placed on these studies. Yet no portion of the academic or collegiate course more richly rewards the student, or tells more favorably on society. In whatever light we view the subject, these studies are superlatively useful: useful in either sense of the term; whether, with Hamilton, they be regarded as a means to an end, when that end is "unto himself;" or as a means to an end, when that end is "out of himself," or as an instrument acting upon others.

I. Now I am not a believer in, nor an advocate of the "ethics interest;" but all will perhaps readily concede that it is a man's right privilege, as well as bounden duty to seek his own highest intimate good: also, that this highest good or happiness is attainable only in the highest perfection of his nature. This perfection of nature can be realized only by a knowledge and contemplation of the divine nature and perfections. These principles being conceded, that class of studies that contribute to this most valuable ought to be held in highest esteem. Art, we claim, is the department of inquiry thus largely contributing.

In this brief paper we have not time to discuss at length and elaborate this proposition, but can simply suggest it. Its investigation is most deeply interesting and profitable. We can stop here only to remark that the æsthetical enters very largely into our idea of God. If this be true, then Art, whose mission is "the reproduction of the beautiful,"—the *ideally* beautiful—"by the aid of the data which nature furnishes," would tend most directly to lead us to the idea and thought of God; which idea and thought of God we have already made the condition of man's highest perfection and happiness. "Moral beauty," says COUSIN, "is the foundation of all true beauty. It is the prerogative of art to portray this moral beauty by the aid of physical beauty; this latter being merely symbolical of the former." COUSIN's charming discussion of this subject, as contained in the seventh, eighth and ninth lectures on "The True, the Beautiful and the Good," will be readily recalled. A single quotation, and I leave this branch of the topic. "Let us," says he, "be thoroughly penetrated with the

thought that art is also to itself a kind of religion. God manifests himself to us by the idea of the true, by the idea of the good, by the idea of the beautiful. Each one of them leads to God, because it comes from him. * * * True beauty is *ideal* beauty, and ideal beauty is a reflection of the infinite. * * * Every work of art, whatever may be its form, small or great, figured, sung or uttered, every work of art truly beautiful or sublime, throws the soul into a gentle or severe reverie that elevates it toward the infinite. The infinite is the common limit, after which the soul aspires upon the wings of imagination as well as reason—by the route of the sublime and beautiful as well as by that of the true and the good. The emotion that the beautiful produces, turns the soul from this world; it is the beneficial emotion that art produces for humanity."

2. There is another view of this subject that ought to be presented.

One great utility claimed for the study of natural history is the cultivation of habits of close and careful observation—the detection of minute differences or resemblances—thus furnishing the student a power of correct and scientific classification.

This utility must be conceded. But while we do not presume to detract in any degree from the popularity of these studies, or desire to underrate their value in attaining these results, we place Art studies above them as a means of securing this same discipline. We doubt if there is to be found, in the whole range of study, any so powerful remedy to inaccuracy and inattention. It is, indeed, lamentable to notice how blind are most students to the beauties of God's world. To most of them the Psalmist's description of the heathen idols is applicable: "Having eyes they see not, and ears they hear not." To them God's glorious landscapes that he spreads out for their enjoyment, are as though they were not. The thousand variegated tints with which the Great Artist paints his skies and decks his footstool, pass all unheeded. To them spring, summer and autumn foliage is all the same. Skies are ever blue; grass is ever green; and water wears one unvarying hue.

A look of surprise, or an air of incredulity follows the statement that nature sometimes rejoices in green skies—that water gives back tints more varied and glorious than the rainbow—that her carpet is woven of materials dipped in dyes of unrivalled gorgeousness.

Yet all who have an artist's eye, directed by an artist's mind,

well know that these are appearances frequently presented. These varying, evanescent glories, the artist reproduces—these subtle beauties he fixes on canvass. For example, how exquisitely has CHURCH, in some of his paintings, wrought up these marvellous tints of cloud and sky!

I have had occasion to note the power of a single lecture on art to open the blind eyes and unstop the deaf ears of a class of young ladies. I have heard them remark that they lived in a new life, and were astonished that so much time had been passed in a state of unconsciousness of the enrapturing beauties of this glorious world.

Thus, in seeing new sources of happiness opened up to my pupils—their powers of observation intensified—their minds expanded—their imagination newly kindled, and their whole natures more nearly allied to the Great Artist, have my humble labors been abundantly rewarded.

So much, briefly for the utility of Art studies when they are a means to an end—that end being the elevation and purification of the individual himself.

3. But these studies are eminently useful in the other sense of this term, viz., as a means for securing good to others, or society. As Americans, we talk much of making home attractive. We inquire, with much interest and concern, “how can our citizens become more refined and cultivated?” Theories of social elevation are freely discussed. Of all the means of attaining an end so desirable, a thorough course of art instruction in our colleges and academies, I rank among the most potent. The graduates of these schools occupy positions of high trust, and give hue and tone to society. The homes of these men and women ought to be the model homes of the land, after which others are largely to copy.

The humbler classes are wont to look to those in higher walks for examples; and the prevalence of any particular style among the higher, is a reason and argument for attempted imitation by the lower.

The application of this principle is easy. Take, for illustration, the matter of architecture. A man of education is to erect a dwelling. Untaught in the principles of architecture—his Art studies entirely neglected—his mansion, while convenient and comfortable, may, in its plan and construction, violate every principle of correct taste. It may be that strange conglomeration—utterly

destitute of harmony and proportion—which is, alas! the rule among our farm houses, and having few exceptions among our more pretentious residences. These nameless, fatherless piles of wood, brick or stone, abounding in our country, and owned by the graduates of our higher schools, become the models copied by those inferior in culture and thus are multiplied ugliness and deformity in our home architecture. The furnishing of the house and the arrangement of the grounds illustrate the same principle. The wife, a graduate of some of our higher female seminaries or colleges, shocks us by her discordant jumble of expensive furniture and the strange absence of taste in the wall adornings.

Thousands of money fail to make the interior attractive, as others have served to make the exterior repulsive. If we study the grounds, the lack of artistic culture is still more apparent. Landscape gardening is a study unheard of by these, or least unpracticed. One would infer that the owner of the ground was “working on the square” in right earnest. “Parallels, right angles and perpendiculars” are the general and particular of the plan. Trees of uniform height and foliage, in right lines, abound. Each must be a precise number of feet from its neighbor—never swerving in trunk from a perpendicular—occupying by its shadow an exact number of square feet, and no more. Straggling limbs suffer the fate of most stragglers—are “cut off.” Curves are avoided with studious care; arbors are ignored; and nature’s wild profusion and variety are subdued and brought “under rule.”

I have thus briefly hinted at the effects of the neglect of these studies on our home architecture, our house adornings and on our lawns and grounds. These pernicious results are perhaps more marked in the case of the horrible school buildings scattered throughout our State—those nondescripts in architecture—having “a likeness of nothing in the heavens above, or in the earth beneath, or in the waters under the earth,” and also in the wretched work made of church building, where the worshipper is compelled to think more of heathen mythology or mammon’s service, than of Him whose worship should be spiritual.

We have thus suggested some of the benefits arising from the introduction of Art studies into our higher schools; also, some of the pernicious consequences of their neglect. Since it is my design to be as practical as possible, I will briefly indicate the plan that, on trial, I have found to succeed well.

This plan needs much modification in order to its perfection.

My course is to deliver thirteen lectures, of some forty minutes each, to the young ladies of my graduating class—requiring them to report and keep a record of the same. The first fifteen or twenty minutes are devoted to an examination of the previous lecture, thereby fixing the principles, and testing the accuracy of the class as reporters. As a suggestion to those who have not given much attention to this subject, and have not introduced these studies into their schools, as well as to be benefited by the experience and criticism of those who have made these studies a specialty, I append a brief syllabus of the aforementioned lectures.

I. On the idea and love of the beautiful, and the importance of æsthetic studies. Name the fine arts. Give an idea of the utility of each—especially in the department of monumental art.

II. Give a brief description of the various modes of making pictures. Sculpture. Antique art. Encaustic. Frescoes. Oil painting. Engraving. Photographing. Water glass. Arrange these historically and chronologically, as nearly as possible. Mention a work of at least one representative man in these different departments.

III. Describe the mode of producing sculpture. Modelling in clay. Cutting the marble, &c. Polishing, &c. Define statues; statuettes; bas-relievos; alto-relievos, &c. Mention some of the most noted works of the greatest masters.

IV. The schools of painting. What is a *school* of painting? Mention the most celebrated in modern times. The Florentine, the Roman, the Venetian, &c. Point out characteristics of each. Mention one or more most noted artists of each school.

V. Frescoe painting. Its peculiarities. The process. Reasons of the preference of the great masters for this. Take one of M. Angelo's frescoes to describe.

VI. Oil painting. The process of painting in oil on walls and canvass. Take an oil painting for analysis. Of what is it composed? Canvass on stretcher, and why? Colors prepared in oil, and why? What principles are involved in the painting? *a.* Subject. *b.* Composition. *c.* Drawing. *d.* Coloring in particulars. *e.* Chiaroscuro. *f.* Harmony of coloring. Give the test of the excellence of a painting in these particulars by numbers ranging from one to twenty.

VII. Styles of painting. *a.* Flower, &c. *b.* Landscape. *c.* Animal. *d.* Figure. *e.* Genre. *f.* Portrait. *g.* Historical. *h.* Allegorical and religious. What is found in a good painting of

each kind. If historical, it must be truthful; if ideal, it must be natural; if portrait, it must reveal mental and moral characteristics.

VIII. Since, in the absence of public galleries in this country, we must give our ideas of many master pieces through engraving alone, the eighth lecture is devoted to engraving. Give a concise chronological history of it. On wood. On copper. Lithography. Steel. Chromolithography. Photolithography. Mezzotint. Aquatint. Give an idea of each in mode and effect, distinguishing between line, stipple, etching, &c.

IX. Show what constitutes a good engraving. How to select them. Name the best masters. Give the relative value of the works of these masters. Raphael Morghen's "Last Supper" proofs. Mühler's "Madonna de San Sixto." Describe and give the relative value of different impressions. *a.* Artist's proofs. *b.* Proofs before letter. *c.* Extra paper prints. *d.* Common prints.

X. Architecture. Origin. Brief history. What constitutes an order. Give different orders. Adaptation of style to use.

XI. Christian art. Influence of christianity upon art, especially on painting and architecture. Origin of symbols. Explanation of devices in church decoration.

XII. Landscape gardening. Discussion of principles involved. Adaptation of different modes or styles to different circumstances.

XIII. Applied art. To dress. To furniture. To wall decoration. To table ornamentation, &c.

XIV. To give an idea of subtle art criticism, I read Goethe's analysis of the "Laocoon," the class having an engraving or model of that work before them.

These lectures are treated in a popular manner—no metaphysical speculations—and illustrated by engravings, paintings and casts. On trial I have found their effect on classes beneficial to the extreme.

NOTE.—The foregoing lectures were prepared and delivered to classes, and the syllabus given, before the appearance of Dr. Sampson's late work. This work will afford a valuable aid to the teacher in the way of suggestion.

DIPLOMAS FOR WOMEN.

DIPLOMAS FOR WOMEN.

BY A. FLACK, A. M.

Principal of Claverack Academy and Hudson River Institute.

The object of this paper is expressed in the following preamble and resolutions :

Whereas, It is desirable to encourage a thorough literary course of study for ladies equivalent to the college course for gentlemen ; therefore

Resolved, That the Regents of the University be requested to prepare for the academies of this State (that choose to carry ladies through such a course) a course of study for ladies that shall be equivalent to the college course for gentlemen.

Resolved, That the Regents of the University be requested to appoint a committee of their own number, or if the Regents of the University prefer, partly of their own number, and partly of other literary gentlemen of this State, to act as an examining committee, at annual examinations of academies whose trustees may signify a desire to have the ladies of their academy complete the prescribed course above referred to.

Resolved, That the Regents of the University confer the degree of A. B. upon such ladies as pass a satisfactory examination in the course prescribed by them, or such a degree as they choose to confer upon ladies.

Resolved, That the Regents of the University (if they deem any action of the legislature necessary) ask the legislature of this State to designate a title for ladies which shall signify that they have finished a course of study equivalent to the college course for gentlemen.

The objects to be gained by carrying out the suggestions contained in these resolutions, are,

1. To encourage the ladies in our academies to complete a thorough, systematic course of education, in such branches of study as will the most perfectly develop their social, intellectual and moral natures.

2. To encourage the trustees and teachers of the leading academies to set before the ladies taught in their institutions, the high standard of scholarly attainment.

presenting this practical subject of extending the course of education, and asking that the honors be conferred upon who do complete it that are conferred upon others, we do not propose to discuss theories of female education. We take it for granted that this Convocation of teachers believe that the honor of this State should have presented to them every honor-

able motive to acquire the very highest intellectual and moral excellence.

We take it for granted that education is a coerced condition of mind ; that it is produced by force applied by the teacher, and continued, earnest effort on the part of the instructed : that goodness and greatness are the result of great efforts.

The three female colleges now chartered by our legislature, Vassar, Elmira, and Ingham University, have each a course of study prescribed which entitles the graduate to such a degree we refer to.

Their courses of study are not the college course for gentlemen but are intended to be equivalents.

We have no objection to adding to the course of these worth institutions, if the Regents of the University think proper.

We have no complaints to make against these colleges ; on the contrary, we commend them. But they cannot do all the educational work of the kind they are doing that is to be done in the State.

The object that these resolutions contemplates will encourage these colleges, and strengthen them, by raising the standard of requirement for graduation throughout the State.

It is idle to ask the academies that are teaching all the studies that are taught in these female colleges, and teaching them thoroughly, to send their pupils to those colleges to be graduated.

Besides the young ladies seminaries that are able to carry the pupils as far as the female colleges, there is a class of mixed schools, where young men in large numbers are prepared for college (and in some cases for advanced standing in college), whose range of studies actually taught, exceeds the course of any of the female colleges. These academies are so largely patronized that they can afford a professor of experience, who makes teaching a profession, for each distinct department.

The present demand for competent teachers in French and German, in these large female seminaries and male and female academies, enable them without any extra expense, to educate thoroughly their lady graduates in French and German, as well as in Latin and the other studies pursued in female colleges.

Hence we think that the cause of education would be incalculably benefited by encouraging this class of female seminaries, and male and female academies, to encourage their pupils, as far as practicable, to complete a collegiate course.

In our judgment, the carrying out of the spirit of these resolutions will encourage a dozen or more of the leading academies of the State to keep a number of their pupils in a course of classical and higher English two years longer than they now do, and add thus much to the intellectual strength of the State, and do much to silence those who now (and in many cases justly) speak so lightly of the course of study pursued by ladies. We think the ladies' course of study should be prescribed by the Regents, and have their sanction. (That they would allow some margin for equivalent studies to be pursued by pupils of different tastes, no one doubts.)

Again, it is highly important that the Regents of the University be present at the examinations of the academies.

The fact that these ladies have passed a satisfactory examination before so disinterested a board of examiners, adds to the value of their diplomas.

We wish to be distinctly understood that ladies who receive this degree from the Regents of the University, do so after the Regents have *in person* attended the examination of candidates for the degree. We expect by removing the qualifications for the degree from the professors to a disinterested committee, to secure better scholarship and more value to the diploma conferred.

It seems to us that the Regents of the University are not now doing as much in the way of examinations and the conferring of degrees, as was intended when the board was instituted. (We say this without making any complaint.) We believe that the cause of education would be greatly profited if two or more of the Regents of the University should receive a salary and give as exclusively their time to visiting the academies as the secretary of the board now does to the necessary office business. We think that some member of the board should be present at the examinations of most of the academies every year. To this end we might better forego some of our Literature Fund, and have a member of the Board of Regents at our examinations, to make suggestions to teachers and trustees as each class is examined. We feel that the influence of such members of the Board of Regents on teacher, and trustee, and pupils, would be salutary beyond what any one now imagines. This course will elevate our academic system, and draw students from other States to our academies. Our State is now more liberal to its academies than any other State in the Union, and there is no reason why our academies may not draw from every State because of their excellencies.

It seems to be a well established fact that pupils will come up to any standard set before them by the institution in which they are educated, and will not go above it. This must be the experience of the teachers present.

We have not thought it necessary to allude to the fact that there are young ladies in every village, city and country school district, who are *advanced*, and when fourteen years of age are ready to enter upon a collegiate course. Their parents are able and willing to continue them in school four years more, if the academic teachers encourage such a course. There is such a number of these cases known to every teacher present, that we feel they have, with us, wished for a more complete course to be encouraged by the Regents of the University, to continue them longer in their course of instruction.

It is said, truly, that the academies can now teach, if they choose the course referred to, and their pupils will have the knowledge if not the degree.

While one does now pursue the course without the degree, we can encourage *scores* to pursue it for the degree. It is but simple justice to confer it. No one is injured by it, and those having the degree are benefited.

In asking for this degree, and to have it conferred by the Board of the Regents of the University, we do not discourage (for the present) the granting diplomas by academies, as at present, for a course of study equivalent to that pursued in this and other States at the present time.

It may not be improper to mention here that a number of ladies of the last graduating class of the institution of which I have charge, have signified their intention to return next year and complete the college course. This is the result of our discussing the question before them. These ladies have already advanced in their studies one year beyond the average requirements of graduates in the Hudson River Institute, and other academies and seminaries in this State.

Only the most advanced pupils desire this course. We feel very confident that we can have a class graduate in a complete college course every year.

Hoping the above resolutions may be received as kindly as they are deferentially presented, we submit them for your consideration.

THE EXTENT AND CHARACTER OF FEMALE EDUCATION.

BY MRS. JOHN H. WILLARD.

Principal of Troy Female Seminary.

The extent and character of female education should be such as to unfold the natural powers of woman, and qualify her to perform her duties to her Maker and to society. So God declared, when he breathed into man a living soul after his own image, and intimated to him that this image must be wrought out, by the exercise of his varied endowments and intuitions on the objects adapted to it, in nature, in man, and in the supernatural world. To secure these results, what studies should be pursued, in what mode, to what extent; and what should be the surroundings and influences of school life? The answer to these questions will show what should be the extent and character of female education.

To adapt school pursuits and discipline to the unfolding of the natural powers, we must consider what are the gifts of the human mind, what is their nature, and from what processes they receive their best culture.

As woman has implanted in her soul a love of truth and a desire of knowledge, she must study that she may have the happiness derived from the gratification of these principles of her nature, and that she may meet the obligations imposed by the possession of them. As she has perceptions, and lives in a world of sense; as she has within her a world of thought, reason and imagination, an æsthetic, a moral and spiritual nature, and must use language as an instrument of thought and social communion; so must she have education for these various capacities, that they may be brought to the perfection for which they were destined, as far as possible on earth—fully in a future world.

For woman, it is not difficult to begin education in the school with this aim of soul culture, because, except with the few who intend to make teaching a profession, there is no motive to pursue studies for their immediate usefulness for practical purposes. She is free to study with no other aim than her highest improvement and happiness. She may pursue a subject for its own sake, for-

getting its practical application in the interest it excites. Hence we may educate her to be, rather than to possess. We must train her to be good, loving, true and gentle, and "to do with all her might whatever her hand findeth to do;" fit her so to keep the human plants of the Lord, that every home may become an Eden.

The object-teaching of the primary schools is well adapted to that education of the senses which will give her full possession of all their capabilities. This system is continued in the high school, when the object of which she studies is seen and handled. In botany, when the plant is examined—its cells, its root, stem and leaves, and flower and seed, in the several stages of their growth and decay. In chemistry, when she makes experiments with her own hands to prove the relations existing among substances, combining and separating, applying tests, and tracing the effects of heat and electricity, &c. In all physics, when principles are illustrated by the appropriate apparatus. While she thus exercises her senses and cultivates her perceptions in the world of sense, under the guidance of those who find in it everywhere the footprints of the Creator, she becomes at home in it, and finds herself at harmony with it, a part of it, through her body; for she finds in this inner material temple in which her spirit dwells, all the elements and agencies and laws which constitute and regulate the great universe of matter. This unity leads her to believe that they had one Architect, whom her soul must love for the supreme goodness revealed in his works. Who would deprive her of this benefit, by so limiting the extent of female education as to exclude from it chemistry, physiology, astronomy, botany, and a knowledge of the numerical and dynamical laws of the external world; or allow them to be so pursued that they do not, at the same time, educate the perceptive and spiritual nature?

Chemistry, botany and astronomy are selected, because, of the natural sciences, they are universal in their phenomena; physiology, for the knowledge it gives of the instrument by which the spirit works.

By the same system women should be made at home on the globe on which she dwells, by the study of geography. The currents of the sea and the air, as well as the physical features of the land and its climatic influences should be studied, and the same unity and goodness traced as were revealed by physics. Require her to draw every coast and mountain and river and sea, every natural and political division described, till her hand makes a pic-

ire which her mind can not fail to retain. To secure definite perceptions of difficult or foreign names, in the primary class, let the names found in each lesson be written, on the blackboard and spelled and pronounced accurately by the class. When Guyot's maps and books are mastered, the pupil will have reached the highest object of the study, which is to give a knowledge of the planet on which the human race dwells, and its fitness for the purposes of man's existence.

Geography should be pursued in connection with history, to associate places with the events and people which give importance to them. This human interest, this association of places with man in his present, past and future life on earth, causes geography to require the study of history, and leads directly to it.

Ancient geography may be studied to advantage in connection with ancient literature, by making HOMER and a work on mythology, the text books in the beginning. The preparation for class may be the reading of a portion of the Illiad or Odyssey in the translation, and a study of the divinities and localities therein alluded to. The recitation hour may be passed in tracing on the map the wanderings of the heroes, the seats of their gods and sites of their temples, the reading of the best speeches, with the descriptions of the heathen ceremonials, drawing from them the ideas of the ancients—their morality and the religion on which it was based; and a familiar lecture upon their art and architecture, with works like WINKLEMANN and FERGUSSON's History of Art and Hand Book of Architecture as guides to the teacher. In this manner is traced much of the ancient civilization, of what man could work out without christianity, and having no light but his own intellect and the dim traditions of the primeval period.

With the Bible in hand, the pupil traces on the ancient maps the movements of the Jews, and their connections with the several kingdoms, Egyptian, Medo-Persian, Greek and Roman; and the travels of our Saviour and his apostles. She is prepared, when she passes from the Bible of the christian and the Bible of the Greek, to follow on the map the marches of armies, as she has learned to do the travels of St. PAUL, and those of the heroes of HOMER and VIRGIL.

The extent and character of the study of history in the education of woman is peculiar to her sex. The philosophy of history is more to her than its details. It is more to her to know, for instance, that when Saracen and European met on the plains

of France, the crescent bowed forever to the cross, and all-conquering Christianity went on its way rejoicing for humanity, than it is to follow the progress of the most skilful seige or the manouvres of the greatest battle field in the history of the world. It is not when men fight according to the highest wisdom of the military art, but when Providence manifestly interposes to decide the battle, that she is most benefited by contemplating the scene. She is not wiser for studying the marvels of engineering or the strategy of war; for the fate of nations does not depend upon her knowledge of these subjects. It *does* depend upon the character of the nation and their representative men; therefore her sagacity can not receive a better culture than the study of these and their growth affords, to qualify her for her appropriate office of training her for victory on battle fields, and statesmen for wisdom in the councils of the State. She must study the rise and progress, and character and burial, of each of the successive ages, with its influence upon its successors; hence its position in the history of the human race. She must learn what part each performed in the bringing in of "the fulness of time" which received the central, Divine "Light." She must follow that Light through the moulding of the nations of the modern world, and learn of the modern civilization as influenced by christianity. She will thus find that "righteousness saveth a people;" that ideas survive the wreck of nations; that the stream of time is bearing the race onward to a glorious destiny; and be made a better citizen, as well as a better and more agreeable woman, for the study of history.

Allied to history and geography, so closely that they can not well be separated, is the study of literature and art. We learn from geography where men have dwelt, from history their modes of expression in action; we seek then to know the embodiments of their ideas in language and art. In the pursuit of literature, woman's mind is in its element. Her sentiments and tastes are gratified. What lives of the past was too good to let die; hence in it she is living with the best thoughts of the best minds in all time. As they penetrate her soul, the fountains of her own feelings are unsealed, and many of its secrets interpreted to her. The poet speaks the language of her own soul. He reveals to her sentiments which might forever have remained hidden from her mental vision, had not the light of his bright pages beamed upon them. All that comes to her through the avenues of her sensitive nature—the beauties of the natural world, the influence of heart

on heart—is revealed, or multiplied and perpetuated in its influence, by the literary contributions of the ages. From the earliest period, therefore, the memory should be filled with the choicest passages of the poets and of the most inspiring of the prose writers. They will furnish food to the spirit's life, kindle its enthusiasm, and, possibly, stimulate it to express some of the eternal verities in mortal words. The study of belles lettres and rhetoric, in connection with the moral tests which a teacher will always apply, may be made the surest safeguard against feeble and corrupting literature. *Æsthetics*, music and the study of the languages may be grouped with these subjects, on account of the principles of taste and modes of expression which they lead us to consider. The value of music is so fully admitted that we are becoming as universally devoted to it as the Germans. It is to be hoped that we shall be as thoroughly educated in the science. The soul's highest mode of expression is language. It is alike an expression and the instrument of thought. The study of it is one of the best means of mental discipline and is peculiarly adapted to woman. She has great facility in acquiring and using the spoken languages, as well as capacity to master the principles of general grammar and to do her full share in the investigations of comparative philology. Once she may be useful and agreeable in this department of study, language should occupy a portion of time in school (with those who have a special facility for it), from the earliest beginnings of the English grammar to the last school lessons.

Our own language is not to be learned alone from its grammars and dictionaries, and works on rhetoric and criticism, but from the critical reading of the British classics, as SHAKESPEARE and MILTON, and from every subject of study. Each has a vocabulary of its own to express the ideas peculiar to it. The utmost precision should be required in the use of words in all recitations, and much attention should be given to written composition. Class exercises, in connection with every subject that will admit of it, are of great value in giving the student command of language. The limits of the school period should embrace the Latin language, French and German. These, learned with the thoroughness which alone makes them valuable to the student, will give the power to make language the study of a literary life, and bring all the joys its treasures give to a cultivated mind.

The study of *mathematics* is highly useful to woman. By nature a creature of impulse and feeling, of clear intuitions and vague

knowledge of truths that are known from reasoning, she needs the discipline of mathematics. From them she learns that there are truths which are necessary, universal, and immutable. She feels the irresistible evidence which every successive step of a demonstration brings, and must admit the truth of the conclusion. Her power of thinking is increased by the exercise of tracing continually the connection between the steps in long processes of reasoning. She acquires the power also of keeping a subject before the mind until it can be viewed on all sides and every argument brought to bear upon it. She thus becomes less narrow-minded and more reasonable. This discipline may be attained by the pure mathematics. It is not necessary for it that a woman apply the laws of mechanics, measure the distances and dimensions of the planets or calculate eclipses. * These processes may be omitted, unless her mature life bring opportunity and inclination for them. Enough, however, of the mixed mathematics should be presented to the student to show her the wonderful connection between the grand phenomena of the natural world and the abstract truths of pure mathematics.

Most persons admit the importance of the subjects above considered, but a difference of opinion exists in regard to embracing metaphysics in female education. It seems to many that it is of little use for *man* to attempt to sail upon this sea without a shore; hence great folly for weaker woman to make fruitless efforts to navigate it, besides the waste of *time* needed for those showy acquisitions which are the currency of society.* It is true that some of the advantages derived from it may be gained by studying man in history; yet history so far fails to exhibit him, that when we would know what he was in any country, at any given period we must seek that knowledge, in part, from the pictures of life which the novelist paints, or the revealings of the heart which the pen of the poet lays open. History *itself* is aided by the study. The philosophy of history requires generalizations, depending upon powers of the mind which are specially fitted for the exercise in metaphysical studies. They furnish the best gymnastics for the processes of analysis and synthesis which this highest department of historical study demands. Besides, an acquaintance with the universal soul of humanity qualifies us to recognize its features in the diverse costumes in which it is clothed by the circumstance of its time and place in the world. When the nobler principles of our nature assert their superiority and right to culture, we shall

regard mental philosophy and BUTLER's Analogy, or some kindred work, and moral philosophy, useful and agreeable studies for woman. She finds her most exalted range of thought among themes which help her to know herself and the relations which bind her to her Maker and to her fellow man. And, while the yearnings of her moral nature are gratified in seeking for moral truth, it assimilates her soul to itself, and sends her to the Bible more enlightened to see GOD through it. Conscience could not be reached by a lifelong study of pure mathematics. Its activity follows a knowledge of the relations which bind man to his Maker and to his fellow man, of the authority it possesses in the soul as GOD's vicegerent, of the moral government of GOD, of a future life of weal or woe depending upon our conduct in this state of probation. Man is destined to immortality, and has capacities to accomplish this amazing destiny. The study of the intimations of this truth, and of other truths coming up from the depths of the soul's being, and of the nature and laws of the mental and moral capacities, is peculiarly adapted to the life of woman. For to her is committed the mind of man when it comes fresh from the hand of its Creator, with any intimations it may bring with it. If the soul "hath had elsewhere its setting," and "heaven lies about us in our infancy," she should be fitted not only to make "the child the father of the man" among nature's nobility, but also for those questionings of its innate ideas that will furnish to the philosopher data for his reasonings upon what is in man.

Besides, woman has an implanted principle of curiosity, which impels to a desire to know the nature of the faculties of the mind as instruments used in all the discoveries and acquisitions of knowledge. Secluded very properly in the domestic circle from any share in the movements of society or logic of events which cultivate the reflective reason of man, she requires studies which will give her mind discipline. She craves to know of the laws and limits of human knowledge, what to believe and what intellectual and moral guides to follow. Think she must, in this age of intellectual activity, of conjecture and speculation; and she has food for all, from the press, the pulpit, the lecture room, the parlor conversation of gentlemen, and from associations of benevolence and reform. Opposing ideas and theories are presented to her, and if she has no ability to examine them, that she may select the good and reject the bad, she may fall a victim to zeal without knowledge, and pursue, with the intensity of her active nature, and impress upon

the susceptible young mind, errors, whose consequences her heart and conscience would shrink to behold. She may then—after her mind has been disciplined and enriched, her powers of observation and reasoning cultivated, and all her mental energies quickened by previous study—pursue the study of intellectual philosophy. “That philosophy which,” in the language of ARCHER BUTLER, “is to every specific philosophy what that specific philosophy is to the individual objects of its classifications, that the sciences which theorize the world may themselves be theorized, that the subjects of their inquiry and the relations whose endless varieties they detect may be themselves resolved into classes of subjects and classes of relations, that these classes of subjects and relations are themselves again amenable to one grand final classification, as the attributes of a single permanent substance. That substance is the mind of man, and THAT philosophy is the philosophy of the human mind.” Woman should commence the study of it at school, that she may be capable of pursuing it amid the absorbing cares or trivial pursuits of her retirement, and grow wiser without her books, when her only objects of study are within herself or those whom it is her pleasure to serve, and for whom she imposes upon herself the humblest duties. Through the light of this knowledge she may guide other minds, and herself rise with more ease into the higher regions of faith, and sooner become that life and center of domestic comfort which the poet saw:

“Now I see, with eye serene,
 The very pulse of the machine :
 A being breathing thoughtful breath,
 A traveler between life and death ;
 The reason firm, the temperate will,
 Endurance, foresight, strength and skill ;
 A perfect woman, nobly planned,
 To warn, to comfort, and command ;
 And yet a spirit still, and bright
 With something of an angel light.”

Metaphysical studies, which elevate and enlarge a woman's intellect, do not on that account rob her of the graces with which her sensitive nature clothes her. She is not made masculine by them ; on the contrary, they lead her to be satisfied with what she finds in herself and her own sphere. She learns of the superiority of reason to passion ; of the existence of law everywhere, *originating in the supreme source of it*, and hence to submit to all its

appointments with a better grace, and become a truer woman and a better citizen.

To accomplish the ends of her education, beauty and melody, love and truth, should pervade the atmosphere in which intellectual studies are unfolding her intellectual powers. Her own hand should be trained to skill in the elegant arts. Her *hand* should be educated at every stage; it is to *woman* the instrument of instruments.

Let the school touch all the chords of her being, to awaken them to a consciousness of their existence and modes of exercise, harmonize them among themselves and to the noblest melodies, and send her forth to dispense good and to receive hallowing influences into her own spirit. Let it place in her hand a chart of the field of knowledge, with her own place marked upon it and the lines of direction in study by which she may advance towards her soul's perfection.

APPENDIX.

TROY FEMALE SEMINARY, }
July 10, 1866.

Dr. WOOLWORTH :

Dear Sir—At the last Convocation, in the discussions upon the character and extent of female education, there was wanting a programme of the order and arrangement of the studies necessary to accomplish the ends in view. I venture, therefore, to submit the accompanying classification, which I have prepared for the entire school course of girls from their entrance at seven to their graduation at nineteen.

This classification recognizes the subject of it as a complex being, having a physical, intellectual, æsthetic, social, moral and spiritual nature; and it educates the faculties according to their mode and order of development.

The first three years' course must have interest for higher institutions, which have no primary department; for the value of academic instructions depends much upon the preparation of these earlier years.

The object of the primary course of study is to train the senses; exercise the perceptions; fill the memory with the facts of the external world, and the imagination with its marvels; to find God everywhere in it; to bring out the intuitions of the mind; excite the curiosity, quicken the mental activity and cultivate a taste for study. The studies of these first years, more than any others, require the living power of an enthusiastic teacher.

Reasonings upon moral and metaphysical subjects, which withdraw the mind from exterior objects and concentrate it upon itself and its relations to God and man, are left to the latest period that students are under the instructions of the school; for they are only profitable after the powers of the mind have been developed, disciplined, and strengthened to grapple with abstruse truths. With such preparation they do more than any other subjects to exalt the women we educate.

If you, sir, approve of this classification, will you do me the favor to present it to the convocation? I shall not be able to be present.

With great respect and regard, yours,

SARAH L. WILLARD.

COURSE OF STUDY.

PRIMARY DEPARTMENT.

Primary Studies for Three Years.—Object lessons; spelling, with dictation, and the analysis of words as in Lynd's Etymology; reading, with recitation; writing, mental arithmetic and tables, natural history, elementary botany, geography, grammar, French and German begun, drawing, music.

INTERMEDIATE DEPARTMENT.

First and Second Year.—Arithmetic, geography, with map drawing analysis and derivation of words, Trench's Study of Words, spelling, with dictation; reading, with recitation composition, daily, in connection with the study of words; writing, Latin, French, drawing, music.

Third Year.—Arithmetic, physiology and hygiene, history, consisting of a system of chronology and the history of the United States; critical reading of the poets, with written criticisms; writing, composition, Latin, French; music and drawing, elective.

Fourth Year.—Universal geography, geography associated with history, elements of natural philosophy, grammar and analysis, Shakspeare reading, writing, book-keeping, Latin, Latin composition, French; music and drawing, elective.

ACADEMIC DEPARTMENT.

First Year.—Algebra, rhetoric, themes; ancient geography, with Greek and Roman antiquities; French language and composition; zoölogy, mineralogy, geology; music and drawing, elective.

Second Year.—Geometry, trigonometry, universal history, history of English literature and language, themes; German, botany, music, painting, elective

Third Year.—Chemistry, Kame's Elements of criticism, themes; German; natural philosophy, including mechanics, optics, pneumatics, electricity, electro-magnetism; French, Italian or Spanish, voluntary, or as substitutes for natural philosophy; music and painting, elective.

Fourth Year.—Astronomy, intellectual philosophy, moral philosophy, Butler's Analogy, natural theology; French, German, Italian, Spanish, music and painting, elective.

BRANCHES PURSUED THROUGHOUT THE COURSE.

The Bible, composition, elocation, gymnastics, dancing, drawing, singing.

LECTURES.

Lectures in the academic and intermediate departments (throughout the course), on topics of history, science, literature, language, art, architecture.

11

10

STATISTICS
OF
COLLEGIATE EDUCATION.

COMPILED BY D. J. PRATT, A. M.,

Assistant Secretary of the Regents of the University of the
State of New York.

STATISTICS OF COLLEGIATE EDUCATION.

[The Convocation Proceedings of 1865 and 1866 being published at about the same time, Table No. V, which was prepared for the Convocation of 1866, has been included with Tables I-IV, in the Proceedings of 1865.]

TABLE No. I.

This table shows the number of Classical and other Students, resident Graduates and Alumni, and the undergraduate representation in each College from its own State, from all other States, and from the single State of New York, in each of the several Colleges named.

COLLEGES.	Collegiate Year.	Classical Course.	Scientific Course.	Law course.	Medical Course.	Philosophical Course.	Partial Course.	Total.	From same State.	From all other States.	From State of New York.	Resident Graduates.	Alumni.
MAINE.													
Bowdoin College.....	1864-5	118	.....	.....	69	.....	.....	187	{ Cl. 109 Med. 51 }	89	.....	.....	1,512 [1864]
Waterville College.....	1864-5	61	.....	.....	.....	.....	1	62	52 Cl.	18	.....	.....	431 [1863]
NEW HAMPSHIRE.													
Dartmouth College.....	1864-5	146	37	.....	47	.....	.....	230	{ Cl. 65 Sc. 13 Med. 24 }	81	8	.....	3,112 [1865]
VERMONT.													
University of Vermont.....	1863-4	37	.....	.....	64	.....	3	104	{ Cl. 33 Med. 26 Par. 3 }	38	2	.....	{ Cl. 720 { [1861] Med. 236 }
Norwich University.....	1864-5	55	.....	.....	.....	.....	39	94	{ Cl. 11 Par. 11 }	44	6	.....	.....
Middlebury College.....	1864-5	65	.....	.....	.....	.....	.....	65	{ Cl. 35 Par. 11 }	28	4	.....	.....
MASSACHUSETTS.													
Harvard College.....	1864-5	385	73	125	216	.....	.....	799	{ Cl. 208 Sc. 52 Law 41 Med. 138 }	117	31	9	1,050 [1862]
Williams College.....	1864-5	183	.....	.....	.....	.....	4	187	{ Cl. 39 Par. 1 }	21	8	.....	7,440 [1863]
Amherst College.....	1864-5	212	.....	.....	.....	.....	.....	212	{ Cl. 138 Par. 1 }	84	7	.....	1,955 [1863]
Yale College.....	1864-5	40	.....	.....	.....	.....	.....	51	{ Cl. 16 Par. 2 }	100	30	.....	1,520 [1863]
College of the Holy Cross.....	1863-4	.....	.....	.....	.....	.....	.....	103	{ Cl. 3 Par. 1 }	3	1	.....	70 [1863]

RHODE ISLAND. Brown University.....	1804-5	163	.....	.....	.....	20	11	184	{ Cl. Ph. Par. 114 } 73 8 5 } 1	80 12	2,133 [1863]
	CONNECTICUT.										
	1804-5	468	.....	.....	.....	32	47	621	{ Cl. Low Med. Phil. 114 } 16 16 32 27 23 16 1	344 128 1 4 26 57 36 11	7,235 [1863]
	1804-5	.....	.....	.....	.....	.....	.....	112	{ Cl. Par. 53 } 16 1	.....	733 [1863]
	1804-5	52	.....	.....	.....	.....	1	53	{ Cl. Par. 53 } 16 1	.....	550 [1863]
	NEW YORK.										
	1804-5	150	29	158	.....	.....	.....	337	{ Cl. So. Law 113 } 27 113 45 113	5 145 2 27 45 18 10	2,000 [1863]
	1804-5	67	58	16	221	.....	12	374	{ Cl. So. Med. Par. 148 } 12 12 12 36 36 12 17	.....	3,106 [1863]
	1804-5	199	66	.....	.....	.....	29	294	{ Cl. So. Par. 187 } 159 37 5 5 68 16 17 83	.....	3,881 [1863]
	1804-5	187	.....	.....	.....	.....	.....	187	{ Cl. So. Med. Par. 187 } 159 37 5 5 68 16 17 83	.....	1,085 [1863]
1804-5	61	9	.....	.....	.....	.....	70	{ Cl. So. Med. Par. 101 } 159 37 5 5 68 16 17 83	.....	549 [1863]	
1804-5	84	.....	.....	.....	.....	.....	.....	101	{ Cl. So. Med. Par. 101 } 159 37 5 5 68 16 17 83	.....	318 [1863]
1804-5	104	2	.....	.....	.....	2	108	{ Cl. So. Par. 97 } 64 64 3 24 45 29 45 62	.....	271 [1863]	
1804-5	70	27	.....	.....	.....	.....	.....	97	{ Cl. So. 97 } 64 64 3 24 45 29 45 62	.....	117 [1863]
1804-5	74	.....	.....	.....	.....	.....	.....	74	{ Cl. So. 74 } 64 64 3 24 45 29 45 62	.....	63 [1863]
1854-5	130	.....	.....	.....	.....	.....	.....	130	{ Cl. So. 130 } 64 64 3 24 45 29 45 62	.....	379 [1865]
1864-5	66	.....	.....	.....	.....	.....	.....	66	{ Cl. So. 66 } 64 64 3 24 45 29 45 62	.....	163 [1863]
1864-5	77	.....	.....	.....	.....	.....	.....	77	{ Cl. So. 77 } 64 64 3 24 45 29 45 62	.....	170 [1863]
1804-5	.....	.....	.....	.....	.....	.....	.....	44	{ Cl. So. 44 } 64 64 3 24 45 29 45 62	.....	.....
NEW JERSEY.											
1864-5	248	.....	.....	.....	.....	.....	.....	248	{ Cl. So. Par. 248 } 92 28 3	156 43 1	3,980 [1863]
1864-5	71	3	.....	.....	.....	1	75	{ Cl. So. Par. 75 } 92 28 3	.....	792 [1863]	
Rutgers College											

TABLE No. I.—(CONTINUED.)

COLLEGES.	College Year.	Classical Course.	Scientific Course.	Law Course.	Medical Course.	Philosophical Course.	Partial Course.	Total.	From same State.	From all other States.	From State of New York.	Resident Graduates.	Alumni.
PENNSYLVANIA.													
University of Pennsylvania.....	1864-5	105	6	65	425	.....	.....	601	Cl. 101 So. 6 Law 1 Med. 252	4 64 173	..... ..... 7	.....	1,320 [1863]
Dickinson College	1864-5	90	.....	.....	.....	.....	.....	90	57	33	2	.....	988 [1864]
Jefferson College	1864-5	133	.....	.....	.....	.....	.....	133	94	39	1	.....	1,700 [1863]
Washington College.....	1864-5	61	.....	.....	.....	.....	.....	61	37	24	.....	.....	800 [1863]
Pennsylvania College	1864-5	62	.....	.....	.....	.....	.....	66	59	7	.....	.....	356 [1863]
Lutheran Missionary Institute and Susquehanna Female College	1864-5	112	.....	.....	.....	.....	.....	112	110	2	.....	.....	5 [1863]
Franklin and Marshall College	1864-5	49	.....	.....	.....	.....	.....	49	41	8	.....	.....	347 [1862]
Agricultural College of Pennsylvania	1864-5	.....	116	.....	.....	.....	.....	116	83	33	10	1	25 [1863]
University of Lewisburgh.....	1864-5	63	.....	.....	.....	.....	.....	63	46	17	1	.....	109 [1863]
St. Vincent's College	1864-5	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
St. Vincent's College	1864-5	57	.....	.....	.....	.....	.....	57	21	36	3	.....	132 [1864]
Waynesburg College	1864-5	.....	.....	.....	.....	.....	.....	90	69	21	1	.....	82 [1865]
Pittsburgh Female College	1864-5	39	53	.....	.....	.....	.....	92	90	2	.....	1	.....
Western University	1864-5	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Allegheny College.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
MICHIGAN.													
Michigan University	1864-5	117	68	230	414	.....	94	953	Cl. 65 So. 16 Law 64 Med. 100 Par. 30	52 52 196 314 64	3 4 21 34 7	.....	400 [1863]
Kalamazoo College.....	1864-5	7	1	.....	.....	.....	18	26	Cl. 4 So. 1 Par. 17	3 1 .....	.....	.....	96 [1863]
Athlon College .....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Willamette College.....	1864-5	35	34	.....	.....	.....	Fe. 87	156	Cl. 13 So. 24 Law 49	22 10 38	6 1 3	.....	60 [1863]

OHIO.									
Ohio University.....	.....	.....	.....	.....	.....	.....	.....	.....	220 [1862]
Miami University.....	1864-5	67	50	.....	.....	.....	.....	.....	750 [1863]
Oxford Female College.....	1864-5	.....	.....	.....	.....	.....	.....	.....	70 [1863]
Franklin College.....	1864-5	41	.....	.....	.....	.....	.....	.....	254 [1863]
Western Reserve College.....	1864-5	68	.....	.....	.....	.....	.....	.....	330 [1863]
Kenyon College.....	1864-5	19	6	.....	.....	.....	.....	.....	112 [1863]
Denison University.....	1864-5	45	.....	.....	.....	.....	.....	.....	269 [1864]
Marietta College.....	1864-5	112	28	.....	.....	.....	.....	.....	358 [1860]
Oberlin College.....	1864-5	119	46	.....	.....	.....	.....	.....	244 [1864]
Ohio Wesleyan University.....	1864-5	67	71	.....	.....	.....	.....	.....	119 [1864]
Ohio Wesleyan Female College.....	1864-5	16	Fe. 80	.....	.....	.....	.....	.....	24 [1863]
Baldwin University.....	1864-5	24	133	.....	.....	.....	.....	.....	38 [1864]
Mt. Union College.....	1864-5	63	.....	.....	.....	.....	.....	.....	35 [1864]
Wittenberg College.....	1864-5	18	.....	.....	.....	.....	.....	.....	90 [1864]
Antioch College.....	1863-4	4	7	.....	.....	.....	.....	.....	90 [1864]
Otterbein College.....	1864-5	.....	.....	.....	.....	.....	.....	.....	47 [1864]
Wilberforce University.....	.....	.....	.....	.....	.....	.....	.....	.....	80 [1863]
Capital University.....	.....	.....	.....	.....	.....	.....	.....	.....	24 [1863]
Urbana University.....	.....	.....	.....	.....	.....	.....	.....	.....	66 [1863]
St. Xavier's College.....	.....	.....	.....	.....	.....	.....	.....	.....	150 [1863]
Mt. St. Mary's College.....	.....	.....	.....	.....	.....	.....	.....	.....	350 [1863]
Wes. Female College.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
INDIANA.									
Indiana University.....	1864-5	29	50	15	.....	.....	.....	.....	Cl. 279 [1864] Law 121
.....
Hanover College.....	1864-5	40	44	.....	.....	.....	.....	.....	Cl. 276 [1864] Sc. 18
Wabash College.....	1864-5	33	10	.....	.....	.....	.....	.....	162 [1864]
N. W. Christian University.....	1864-5	36	16	.....	.....	.....	.....	.....	33 [1863]

WISCONSIN.												
University of Wisconsin.....	1804-5	19	22	.....	.....	41	{ Cl. 15 Sc. 17 Cl. 33 Par. 3 }	4 5 31 1	1 } 1 } 4 }	.....	35 [1865]
Beloit College.....	1864-5	64	.....	.....	4	6	.....	.....	.....	.....	84 [1863]
Galesville College.....	1863-4	15	.....	.....	.....	15	.....	12	3	1	2 [1863]
Racine College.....	1864-5	17	.....	.....	.....	17	.....	8	9	.....	36 [1863]
Lawrence University.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	60
Wayland University.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Carroll College.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	13 [1863]
Milwaukee Female College.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	40 [1863]
Wisconsin Female College.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	5,534	1,397	727	1,524	109	398	10,200	5,810	3,315	1,802	19	58,149

EXPLANATIONS AND REMARKS.

In the foregoing table the following abbreviations are used: Cl. = Classical; Sc. = Scientific; Med. = Medical; Par. = Partial; Fe. = Females. The statistical facts are obtained, in most cases, from the Catalogues for the collegiate year indicated in the first column, and from lists of alumni ending with the year given in the last column.

The Catalogues of several institutions, mostly Catholic, include all the students, both academic and collegiate, in a single alphabetical list, and therefore furnish but little material for this table. The New York Colleges of this class reported to the Regents the number of collegiate students as given above.

UNIVERSITY CONVOCATION.

TABLE No. II.

showing the number of students from the various counties of New York, in the Colleges of this and other Northern States east of the Mississippi river.

COUNTIES.	New England Colleges.	New York Colleges.	New Jersey Colleges.	Pennsylvania Colleges.	Ohio Colleges.	Michigan Colleges.	Ind., Ill., Wis. Colleges.	Total
Albany	20	23	4	1	---	1	---	1
Allegany	---	7	---	---	---	---	1	---
Broome	2	4	---	---	---	1	---	---
Cattaraugus	3	6	---	---	2	4	---	---
Cayuga	5	17	1	1	---	1	---	---
Chautauqua	6	10	1	---	2	1	---	---
Chemung	1	18	---	---	---	---	---	---
Chenango	3	7	---	---	1	2	---	---
Clinton	3	4	---	---	---	---	---	---
Columbia	10	8	4	---	---	---	2	---
Cortland	2	3	---	---	---	---	---	---
Delaware	3	12	---	---	1	---	2	---
Dutchess	12	15	2	1	---	---	---	---
Erie	16	15	---	2	3	---	1	---
Essex	7	2	---	---	---	---	---	---
Franklin	4	4	---	---	---	---	---	---
Fulton	2	9	---	---	---	---	---	---
Genesee	---	6	---	---	1	---	---	---
Greene	8	3	2	---	---	---	---	---
Hamilton	---	---	---	---	---	---	---	---
Herkimer	3	2	---	---	1	---	---	---
Jefferson	1	24	---	---	---	1	---	---
Kings	58	37	10	5	1	---	---	1
Lewis	3	6	---	---	---	---	---	---
Livingston	2	23	---	---	---	2	2	---
Madison	4	12	---	---	---	1	---	---
Monroe	7	63	1	---	---	1	---	---
Montgomery	2	15	---	---	---	---	---	---
New York	77	189	18	3	7	1	---	---
Niagara	3	9	---	---	---	---	---	---
Oneida	11	56	---	---	---	---	---	---
Onondaga	5	21	---	---	3	1	---	---
Ontario	5	42	---	---	---	---	2	---
Orange	8	18	8	---	---	---	---	---
Orleans	2	10	---	---	1	1	---	---
Oswego	2	9	---	---	---	2	---	---
	2	12	2	1	---	---	---	---

TABLE No. II.—(CONTINUED.)

COUNTIES.	New England Colleges.	New York Colleges.	New Jersey Colleges.	Pennsylvania Colleges.	Ohio Colleges.	Michigan Colleges.	Ind., Ill., Wis. Colleges.	Total.
Putnam	1	5						6
Queens	3	9		1				13
Rensselaer	9	13	1					23
Richmond	2	8						10
Rockland		1	1					2
St. Lawrence	12	20			1		1	34
Saratoga	5	20	1					26
Schenectady		29				1		30
Schoharie		6			1			7
Schuyler		3						3
Seneca	3	6			1			10
Steuben	1	12	1	1	1			16
Suffolk	8	5	2					15
Sullivan		2						2
Tioga	3	6						9
Tompkins	5	11	1					17
Ulster	3	5	2					10
Warren								
Washington	17	13			1	1	1	33
Wayne	1	14		2		1		18
Westchester	14	29	2					45
Wyoming	3	9	1		1	1		15
Yates	4	13					1	18
	396	960	65	18	29	24	13	1,505

REMARK.

Students in Law and Medical Departments are not included in the above table.

TABLE No. III.

Showing what colleges have furnished the teachers of academies in this State so far as this fact is indicated in the last Report of the Regents; also number of students in such colleges from the State of New York.

COLLEGES.	NO. OF TEACHERS FROM EACH COLLEGE.		No. of stu- dents from
	Principals.	Assistants.	
Waterville College, Me.	2	—	—
Bowdoin College, Me.	3	3	—
Dartmouth College, N. H.	6	3	—
Middlebury College, Vt.	4	5	—
Norwich University, Vt.	1	—	1
University of Vermont,	5	1	2
Harvard College, Mass.	2	3	39
Williams College, Mass.	10	3	79
Amherst College, Mass.	3	1	30
Tufts' College, Mass.	1	2	6
Brown University, R. I.	1	2	8
Yale College, Conn.	7	6	154
Trinity College, Conn.	1	1	11
Wesleyan University, Conn.	13	10	27
Columbia College, N. Y.	—	1	172
Union College, N. Y.	29	21	201
Hamilton College, N. Y.	21	16	159
Hobart College, N. Y.	3	2	68
University of the City of New York.	—	2	94
Madison University, N. Y.	11	6	42
Genesee College, N. Y.	8	14	88
Rochester University, N. Y.	5	5	87
Elmira Female College, N. Y.	—	4	45
New York Free Academy.	1	—	All
New York State Normal School.	1	33	All
Princeton College, N. J.	2	2	29
Rutgers' College, N. J.	2	1	21
Jefferson College, Pa.	—	—	1
Haverford College, Pa.	1	1	3
University of Pennsylvania.	1	2	—
Dickinson College, Pa.	—	—	2
Alleghany College, Pa.	1	—	—
Lafayette College, Pa.	1	—	—
Western Reserve College, O.	1	—	—
Oberlin College, O.	—	5	18
Antioch College.	—	1	1
Michigan University.	—	3	14
Oxford University, England.	1	—	—
University of Glasgow, Scotland.	1	—	—

TABLE No. IV.

Exhibiting sundry summary results.

	Literary and Scientific departments.	* Law and Medical departments.
Number of students in colleges of Northern States east of the Mississippi river, about	7,500	2,500
Number of students from the State of New York in colleges of this and other States, about	1,500	500
Number of students in New York colleges, about	1,500	400
Residence not shown by catalogues, about	† 175	‡ 225
From State of New York, about	1,000	125
From other States, about	325	50
Number of New York students in colleges of other States, about	550	100
Excess of student exportation over importation, for the Empire State, about	225	50

	Principals.	Assistants.
Number of academy teachers in the State of New York, from New England colleges (so far as ascertained), about	60	40
From New York colleges, about	80	100
From New Jersey, Pennsylvania, Ohio and Michigan colleges	10	15
Totals	150	155

* This column does not include the students of schools of Law and Medicine independent of the Literary Colleges.

† Catholic Colleges.

‡ University of the City of New York.

TABLE No. V, showing the requirements for admission to the several Colleges of the State of New York, and to certain Colleges of other States.

COLLEGES.	AGE AND ENGLISH BRANCHES.					
	AGE.	ARITHMETIC.	ENGLISH GRAMMAR.	MODERN GEOGRAPHY.	ANCIENT GEOG.	HISTORY.
Columbia College,.....	.....	*	* †	* †	* †	.....
Union College,.....	16 years	Davies' University †	Thorough preparation	.....	.....	.....
Hamilton College,.....	14 years	*	* †	* †	* †	.....
Hobart College,.....	.....	*	*	*	.....	.....
University of City of N. Y.,	.....	*	*	*	.....	.....
Madison University,.....	.....	Higher Arithmetic †	*	.....	.....	.....
St. John's College,.....	14 years	*	Syntax, comp. study of classical authors, &c.	* †	.....	.....
Genesee College,.....	.....	*	*	*	.....	.....
University of Rochester,...	14 years	*	Greene's Analysis, Parsing.	* †	.....	.....
Elmira Female College,...	.....	Robinson's Higher †	.....	*	Classical & biblical	.....
St. Lawrence University,...	.....	*	*	.....	.....	.....
College of St. Francis Xavier	.....	*	*	.....	.....	.....
Vassar Female College,...	15 years	*	*	*	.....	.....
Manhattan College,.....	.....	Mental and Practical	*	*	.....	.....
St. Stephen's College,.....	15 years	.....	.....	.....	.....	.....
Harvard College,.....	.....	Chase's Com. School	.....	Mitchell's †	Mitchell's †	.....
Amherst College,.....	14 years	*	*	.....	.....	.....
Williams' College,.....	14 years	*	Including Prosody	*	* †	.....
Yale College,.....	.....	Thomson's Higher †	* †	*	.....	.....
Oberlin College,.....	14 years	*	Analysis †	*	.....	.....
University of Michigan,....	14 years	*	Entire	General theory, Europe, U. S.	* †	.....

* Examination required. † Amount not specifically stated.

TABLE No. V.—(CONTINUED.)

COLLEGES.	LATIN ELEMENTS.				
	Grammar.	Reader.	Prosody.	Prose Composition.	Roman Antiquities.
Columbia College,.....	* †	.....	* .....	.....	.....
Union College,.....	* †	.....	* † .....	Arnold, 12 chapters	.....
Hamilton College,.....	.....	.....	* † .....	Arnold, 12 chapters	* †
Hobart College,.....	* †	.....	* .....	* † .....	.....
University of City of N. Y.,	.....	.....	.....	.....	.....
Madison University,.....	†	.....	.....	.....	.....
S. John's College,.....	Elements, syntax, idioms	Phædrus' Tables	* †	Richards, †	Baird, †
Genesee College,.....	.....	* † .....	.....	* † .....	.....
University of Rochester,....	* †	.....	.....	Arnold, 12 chapters	.....
Elmira Female College,....	* †	* † .....	.....	* † .....	.....
St. Lawrence University,....	* .....	.....	.....	.....	.....
College of St. Francis Xavier,	.....	.....	.....	.....	.....
Vassar Female College,....	Andrews, with Syntax	Eclogæ Cæsarinæ	.....	.....	.....
Manhattan College,.....	* †	Exercises	.....	.....	.....
St. Stephen's College,.....	* .....	* † .....	.....	.....	.....
Harvard College,.....	Andrews and Stoddard	.....	Andrews & Stoddard	* † .....	.....
Amherst College,.....	* †	.....	.....	Arnold, 10 chapters	.....
Williams' College,.....	* .....	.....	* † .....	Arnold, 12 chapters	.....
Yale College,.....	Andrews and Stoddard,	.....	* † .....	Arnold, 12 chapters	.....
	Zumpt or Harkness	.....	.....	.....	.....
Oberlin College,.....	Harkness	* † .....	.....	* † .....	.....
University of Michigan,.....	* †	.....	* † .....	Arnold, 44 exercises.	.....

* Examination required. † Amount not specifically stated.

TABLE No. V.—(CONTINUED.)

COLLEGES.	GREEK ELEMENTS.					
	Grammar.	Reader.	Prosody.	Composition Exercises.	Writing.	Antiquities.
Columbia College.....	• †	Jacobs' selections from Lucian and Plutarch • † (or Anabasis)	•			
Union College.....	Crosby or Hadley, †	• † (or Anabasis)	• †			• †
Hamilton College.....	Hadley's Etymology					
Hobart College.....	Harkness, †	Harkness, †		Harkness, †	• †	Baird, †
University of City of N. Y.,	Elements and Idioms	Æsop's Fables, Lucian's Dialogues				
Madison University.....		• †				
St. John's College.....	Hadley, †					
Geneese College.....	•					
University of Rochester.....	•					
Elmira Female College.....	•					
St. Lawrence University.....	Entire †	Knapp, Part V †				
College of St. Francis Xavier	•	Jacobs, †		• †		
Vassar Female College, †	•	Anthon, †				
Manhattan College.....	Sophocles, †	Felton, †	With versification		With accents	
St. Stephen's College.....	Sophocles, Crosby, or Hadley, with Prosody					
Harvard College.....	•	Jacobs, Colton, or Felton, † (or Anabasis)	• †			
Amherst College.....	•	Jacobs, Colton or Felton, †				
Williams College.....	•					
Yale College.....	Hadley, &c., †					
Oberlin College.....	Crosby, †	Crosby, †		Crosby, †		Crosby, †
University of Michigan.....	•			Arnold, entire		

• Examination required. † Amount not specifically stated. ‡ French instead of Greek.

TABLE No. V.—(CONTINUED.)

COLLEGES.	GREEK CLASSICS.			MATHEMATICS.	
	Xenophon.	Homer.	New Testament.	Algebra.	Geometry.
Columbia College,.....	Anabasis, 2 books,	Iliad, 2 books,	.....	Through Simple Eq.,	.....
Union College,.....	Anabasis, 3 books,	Iliad, 1 book,	.....	Through Simple Eq.,	.....
Hamilton College,.....	(or Reader),	.....	.....	To Eq., of second degree,	Plane.
Hobart College,.....	Anabasis, 1 book,	Iliad, 1 book,	.....	Through Quadratics,	.....
University of City of New York,	(or Reader),	.....	.....	Through Simple Eq., †	.....
Madison University,.....	Anabasis, 3 books,	Iliad, 2 books,	.....	.....	.....
St. John's College,.....	Anabasis, †	.....	.....	Through Quadratics,	.....
Genesee College,.....	Anabasis, 3 books,	Iliad, 1 book,	.....	To Quadratics,	.....
University of Rochester,.....	Anabasis, 3 books,	.....	.....	.....	.....
Elmira Female College,.....	.....	.....	.....	.....	.....
St. Lawrence University,.....	Anabasis, †	Iliad, 1 book,	.....	.....	.....
College of St. Francis Xavier,.....	.....	.....	.....	.....	.....
Vassar Female College,.....	.....	.....	.....	To Quadratics,	.....
Manhattan College,.....	.....	.....	.....	Elementary,	Elementary.
St. Stephen's College,.....	.....	.....	St. Matthew's Gospel,	To Quadratics,	.....
Harvard College,.....	Anabasis, entire (or Reader),	Iliad, 2½ books,	.....	Sherwin, to § 38,	Hill's Second Book, Parts I, II.
Amherst College,.....	Anabasis, †	Iliad, 2 books,	.....	To Quadratics,	Loomis or Euclid.
Williams College,.....	Anabasis, 2 books,	Iliad, or Odyssey,	.....	Through Simple Eq.,	2 books.
Yale College,.....	(or Reader),	1 book,	.....	Day, to Quadratics,	Euclid, 2 books.
.....	Anabasis, 3 books,	.....	.....	.....	.....
Oberlin College,.....	Anabasis, 8 books,	.....	Gospels,	To Ratio,	.....
University of Michigan,.....	Anabasis, 3 books,	Through Quadratics,	Legendre, 1, 2, 4 b'ks

* Examination required.

† Amount not specifically stated.

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PROCEEDINGS OF THE THIRD ANNIVERSARY
OF THE
UNIVERSITY CONVOCATION
OF THE
STATE OF NEW YORK,

Held August 7th, 8th and 9th, 1866.



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ALBANY:
CHARLES VAN BENTHUYSEN & SONS, PRINTERS.
1866.

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THE UNIVERSITY CONVOCATION OF THE STATE OF NEW YORK.

MINUTES OF THE THIRD ANNIVERSARY, AUGUST 7TH, 8TH AND 9TH,
1866.

The sessions of the Third Anniversary of the University Convocation of the State of New York, were held in the Assembly Chamber of the Capitol, in the city of Albany, commencing on Tuesday, August 7th, 1866, at ten and one-half o'clock A. M., and closing on Thursday, August 9th, at four and one-half o'clock P. M.

The Convocation was called to order by Chancellor Pruyn, President, *ex-officio*.

Rev. Regent Luckey led the Convocation in the use of the Lord's Prayer, and pronounced the apostolic benediction.

The Chancellor addressed the Convocation as follows:

Gentlemen—On behalf of the Regents of the University, I cordially welcome you to this meeting. From the information in their possession from various parts of the State, the Regents feel warranted in saying that during the academic year just closed, very commendable progress has been made in the institutions of learning under their visitation, and that they were never in a better condition to advance the important purposes for which they were founded. This, the Regents feel, is largely due to the ability, the zeal, and the faithfulness of the teachers of the State—a noble body of zealous and active men, who have passed by those pursuits in life which promise large pecuniary rewards, and have devoted themselves to the substantial good of community by aiding to lay the foundations of our society and government on that basis on which only they can remain firm and stable—that of universal education. We do well in honoring the brave men who, by land and by sea, defend the rights and honor of the country; but let us not forget those without whose arduous labors and teaching those rights and that honor would soon fall into incompetent or unworthy hands.

In addition to those subjects which specially belong to the occasion, several matters of interest will be brought before you. One of these will be a report from the very able committee appointed under the order of the last Convocation, on the requisites for admission to the colleges. This subject has now been carefully considered, and if a result should be arrived at which will meet the approval of the colleges of our State, a very great step will

have been taken to promote the efficiency and thoroughness of our University system. The subject is one of great practical interest, and I am sure will receive your earnest consideration.

Since the last meeting of the Convocation, the Regents have established a system of special examinations in the academies under their visitation, in English grammar, arithmetic and geography. This has met with very general approval, and been productive of very marked results. It is confidently believed that if systematically continued this examination will prove to be of very great benefit to the whole course of academic instruction. The features of this system will be laid before you. No doubt it can be improved in its details, and the views of the teachers in academies in regard to its workings and effects will be received with great interest.

Such are some of the subjects which will come before you, and I feel assured that in your deliberations on these and all other matters presented for your consideration you will be governed by the most liberal and catholic spirit, and by a high sense of your influence and your duty.

The Assistant and Acting Secretary, Mr. D. J. Pratt, was authorized to procure any needed clerical assistance from members in attendance.

The Executive Committee previously appointed by the Chancellor, and having in charge the arrangement of the exercises, consisted of Professor Gillespie, of Union College; Professor Gallup, of Madison University; Professor Peck, of Columbia College; Principal Mason, of Albany Academy; Principal Bennett, of Genesee Wesleyan Seminary; Principal Jones, of Delaware Literary Institute; Principal Steele, of Elmira Academy.

[Professor Peck and Principal Bennett were unable to be present at the sessions of the committee and of the Convocation.]

Professor Gillespie, on behalf of the Executive Committee, reported the following partial

ORDER OF EXERCISES.

Sessions (except the first), 9 A. M. to 1 P. M.; 3½ to 5½ P. M.;
P. M. Joint Sessions, morning and evening; Sectional Sessions,
each afternoon.

Tuesday, August 7.

10½ A. M.; Opening of the Convocation.

11 A. M.; Preliminary Report of the Executive Committee.

11½ A. M.; The Entrance Examination, by Prof. E. North, Hamilton College.

12 M.; Suggestions in regard to teaching advanced classes in Chemistry, by Prof. L. C. Cooley, State Normal School.

1 P. M.; Recess.

COLLEGE SECTION.

3½ P. M.; Report of committee on the requisites for admission to college,—and discussion.

ACADEMY SECTION.

3½ P. M.; The Whole Work of the Academies, by Principal G. W. Jones, Delaware Literary Institute.

4½ P. M.; The Arithmetical Attainments necessary to commence the study of Algebra, by Principal J. H. Hoose, Oswego.

5 P. M.; School Discipline, by Principal A. Flack, Hudson River Institute.

5½ P. M.; Recess.

8 P. M.; The Physical Geography of the State of New York, by Professor J. H. French, LL.D., State Normal School.

[The order of exercises for Wednesday and Thursday will be duly announced.]

The Executive Committee recommended the appointment of a special committee to prepare a report on the University Necrology, several members, including the venerable President Nott, having died during the past year. This recommendation was adopted, and the chair appointed President Fisher, of Hamilton College; Professor Pearson, of Union College, and Principal Williams, of Ithaca Academy.

The following resolution, introduced by Principal Gallup, of Clinton Grammar School, was referred to the Executive Committee, who were requested to report on the subject at the opening of the Wednesday morning session:

Resolved, That in view of the importance of a higher order of instruction in our public schools, to the best success of education in our academies and colleges, we heartily approve of the action of the late Legislature relative to Normal Schools, and congratulate the Regents upon the successful influence exerted in behalf of this new and important scheme of educational improvement.

The Chancellor announced the receipt of a note from His Excellency, Governor Fenton, inviting the members of the Convocation to a social entertainment at his house, at 9 o'clock this evening.

In the absence of Professor North, the time assigned for the reading of his paper was occupied by Professor Tayler Lewis, of

Union College, who read a paper entitled "A Knowledge of the Holy Scriptures an Indispensable Element of Liberal Education."

Regent Wetmore moved a vote of thanks to Professor Lewis for his paper, "so full of great thoughts, wide knowledge and living truths." The motion was seconded by Principal Crittenden, and unanimously adopted. It was also voted, on motion of Regent Luckey, that Professor Lewis be requested to furnish a copy of the paper, together with the scheme of Biblical instruction therein referred to, for publication.

Professor Leroy C. Cooley, of the State Normal School, read a paper entitled "Suggestions in regard to teaching advanced classes in chemistry," after which the Convocation took a recess until 3½ o'clock P. M.

AFTERNOON SESSION—3½ o'clock.

College Section.

The College section met in the Senate Chamber, Regent Wetmore in the chair, and Assistant Secretary Pratt acting as clerk.

President Fisher, on behalf of the special committee appointed by the Chancellor, under a recommendation of the College section of the Convocation of 1865, to report at this meeting some method of securing efficient action upon the requisites for admission to colleges, as recommended by the last Convocation, submitted the following report, which was accepted and adopted:

REPORT.

At the sessions of the Convocation in 1865 it was resolved that in order to secure uniformity in the terms of admission to the colleges of this State, it be recommended to the Faculties of these institutions to adopt the following studies, proficiency in which should be deemed essential to entrance:

In mathematics, algebra to equations of the second degree, and plane geometry.

In Greek, three books of Xenophon's Anabasis, and one book of Homer's Iliad, with prosody.

In Latin, four books of Cæsar's Commentaries, six books of Virgil's Æneid, six select orations of Cicero, Sallust's Catiline, Sallust's Jugurthine War or the Eclogues of Virgil, and twelve chapters of Arnold's Latin Prose Composition.

It was also resolved that the preceding requisites presuppose thorough preparation in arithmetic, English grammar, descriptive geography, classical geography, history of the United States and Greek and Roman antiquities.

The Convocation further request the Chancellor to appoint a committee, to consist of three presidents and four professors, for the purpose of securing the adoption of these terms by the colleges.

This committee met at the rooms of the Regents, on the 24th of April. Present—Chancellor Ferris, President Hickok, President Fisher, Professor Peck, of Columbia College, Professor Glackmeyer, of St. John's College. President Barnard was also present and was invited to sit with the committee.

After a full discussion of the subject, President Fisher was appointed a sub-committee to correspond with the presiding officers of the several colleges, and report to this Convocation. In the course of this correspondence, communications have been received from the Faculties of Rochester University, Genesee and Hobart Colleges, Madison University, Hamilton, Union and Columbia Colleges, the University of the city of New York, and St. John's College, with the following results:

President Eaton, of Madison University, writes that the Faculty unanimously approve of the plan proposed, and will be highly gratified to see it generally enforced by all our colleges.

President Lindsay, of Genesee College, states that the Faculty took action in reference to the resolutions of the Convocation early in the present collegiate year; that they adopted for the classical course substantially what was decided upon at the Convocation, but that the Professor of Geometry thought it better that geometry should be studied under his own supervision. Hence that study was not placed among the requirements for admission.

President Jackson, of Hobart College, says the Faculty are quite ready to accede to the proposed scale of requirements for admission to our colleges in this State.

President Hickok, of Union College, answers that the Faculty "*Resolved*, That the requirements for admission to college decided upon at the University Convocation be adopted by this Faculty, and carried into execution as soon as practicable." He adds: "Our requirements have been, for some length of time, nearly the same as here proposed, except in the requisition of geometry. It is doubtful whether we shall at once make that essential, though we shall not be behind any college in putting ourselves squarely on the platform, and shall urge on all to that point as early as it can be gained."

President Barnard, of Columbia College, writes: "The Faculty of this college are quite willing to conform to any scheme of requisition which may be acceptable to others, provided it be not less in amount than they at present themselves require. The requisites in Latin proposed by the Convocation are such as they could approve. They incline to think that something more should be demanded in Greek—perhaps another book of the Iliad. In mathematics, they are content to accept the requisites recom-

mended by the Convocation, with the qualification that the first and third books of Legendre's Geometry appear to them to be sufficient in that branch."

President Anderson, of Rochester University, says the Faculty are quite ready to make the slight changes in the terms of admission to bring them into harmony with the views of the committee. They will of course reserve to themselves the freedom of judging what will be a fair equivalent (in other books than those named in your report) for the works required to be read by students, in the published regulations.

The Faculty of Hamilton College, early in the present year, adopted the programme of studies recommended by the Convocation, and published it in their catalogue.

Chancellor Ferris states that the Faculty of the University of the City of New York have agreed to the same qualifications.

Professor Glackmeyer, of St. John's College, writes that the Faculty accept the requisitions, with the exception of plane geometry.

It will be seen that all these colleges have substantially adopted the qualifications for admission to the Freshman Class, agreed upon last year. The exceptions are only three, and these respect one study, plane geometry. The effect of this exception is, however, bad. It gives the impression that the standard of scholarship is lower there than elsewhere. On the class of students who appreciate and aim at a thorough scholarship, its effect will be to send them to other institutions; while it will attract to such a college those who are in a hurry to enter, and desire to pass with as slender a preparation as possible. This class, however, is the very one on which the elevation of the standard of admission is designed to act. It also embarrasses the teachers in the academies, since it is decidedly for their interest to have the studies uniform, in order not to multiply classes. It should also be remembered that at this part of geometry can be as well taught in the academy as in the college. There is nothing in it which demands special mathematical ability or knowledge, and the acquisition of it enables the professor in the college to advance the student into other and higher branches of mathematics than he could do if a term of study had to be devoted to this. It is greatly to be desired, therefore, that in this, as in the other points, the entrance qualifications should be uniform; and it is to be hoped that these institutions will shortly come up to the standard adopted by the other colleges.

In some of the communications from college officers on this subject, two or three points have been dwelt upon, and the action of the Convocation objected to, because no notice, or an insufficient notice, was taken of them. The first of these was the subject of *thoroughness*—the quality rather than the quantity required for admission. On this point it may be permitted to remark, that the

question before us respects a uniform and somewhat advanced standard of admission. This subject is logically distinct from the other, and stands upon grounds peculiar to itself. It is of great importance that our colleges should not be behind the eastern colleges in the requisites for admission; and it is obviously very desirable that the same general course of preparation for college should be pursued in all the academies of the State. We do not intend that the institutions of the Empire State shall suffer either in form or in fact by a comparison with the institutions of any other State; while it will greatly assist the teachers in the academies to have a definite and not a varying standard of preparation for college. On this point, I will not now enlarge. I feel free, however, to go further than this, and to suggest the opinion that the uniformity and advanced character of preparation for the college must have a decided tendency to promote thoroughness. When the Faculty of Hamilton College placed the terms, decided upon by the Convocation, in our catalogue, it was feared that what we might gain in quantity would be lost in quality. At the recent commencement, we admitted a larger number of students than ever before at the same time. Of these, some half a dozen had to be conditioned on the books we had added to our qualifications. Most of these were not aware of the additional requisites, having had only a catalogue of the previous year as their guide. The large majority had not only complied with the advanced conditions, but the standard of preparation was decidedly higher than in any previous year. As we adopt the method of written examinations, we were able to judge truly on this subject. In our experience so far, the advance has worked well. In conversation with the principals of academies, so far as I have met them, I find a decided approval of the action of the Convocation, and an earnest effort to elevate the standard of preparation, not only in quantity, but also in quality. I wish also here to remark, for the encouragement of the Regents, that the system they have adopted in requiring a rigid examination of academic students in geography, arithmetic and grammar, in order to determine the amount of funds to be distributed, has had a decided influence in promoting thoroughness in these studies; and, in virtue of that law of affinity which exists between all branches of study and the action of the mind, incidentally, in promoting a better preparation in the classics and mathematics. I think also that the discussions on this subject in the Convocation, for the last two years, have not been without their influence. This question, however, is too broad and too important to be discussed at this time, nor does such a discussion fall properly within the scope of this report. It belongs to this Convocation to take it up year by year, until experience of both theory and practice shall show us how best to secure the truest kind of preparation for college work.

A second point noticed, is the failure to specify that students

will be *examined* on the studies, a knowledge of which is pre-supposed. President Barnard writes, that in the opinion of the Faculty of Columbia College, "there will never be any certainty of the possession of such knowledge on the part of applicants, unless those studies are made subjects of actual examination for admission. Experience proves that youth who are intended for a collegiate education are very rarely obliged to study at school anything but the books on which they are to be examined for admission, and accordingly many young men enter college at the present time with an exceedingly imperfect knowledge of modern or ancient geography, or the grammar of their own language, or the history of their own country. These things ought to be requisitions, and if they be not subjects of examination for admission, the fact that they have received proper attention ought to be established by some satisfactory mode of verification." These observations are unquestionably correct. The Convocation, in regarding them as pre-supposed, did not mean to have it understood that no examination or verification of the knowledge of the student, in regard to them, was to be had. They supposed each college would take its own course in the matter. In the opinion of the undersigned, it would be better to have them stated in the requisitions for admission precisely as in the requirements in Latin and Greek. This would obviate the difficulty. Whether the student shall in all cases be examined by the faculty, or a Regents' certificate of examination on part of these requisitions shall be accepted as satisfactory, must be determined by each college for itself.

A third point made in one of these communications is that certain other studies not mentioned in the requisitions, especially the sciences of observation and experiment, and certain of the modern languages, ought to be pursued before the study of the ancient languages. Dr. Barnard is quite earnest on this point, and as he brought it before the committee, he was requested to prepare a paper on it, to be read at this meeting of the Convocation. I deem it sufficient, therefore, to state the point, without attempting to anticipate the discussion which it will probably receive.

It will be seen by the Convocation that we have made a decided advance towards uniformity in the formal requisitions for admission to college. It remains for us to determine in what way greater thoroughness in these studies can be secured, and whether any other studies should be added to them.

President Anderson urges another point as in his view of great importance. He says we—the Faculty of Rochester University—wish to put ourselves on record as holding grave doubts regarding all efforts for giving a more thorough scholarship, which look only towards action on the entire body of students, without discrimination to be made during their college course, both in the *amount and quality* of the work to be done and in the reputation

which it shall confer. But a small portion of those who ought to have a liberal education are fitted to become good scholars. Those who are thus able, should be furnished with a career for study and incentives thereto, which shall secure vastly higher results than can be reached by the average of men. It is precisely these few learned men which American education needs for its adequate development. We have enough moderately learned men, but are suffering severely for men trained as are the English class men and wranglers, and the French Agrégés. I for one look for the permanent elevation of our educational system through well directed efforts to secure a *few* such scholars as these, rather than to attempt to raise the whole body of students to a height they can never reach." As this subject is one of importance, I have given this extract a place in this report, not to discuss it here, but to bring it before the Convocation for separate discussion.

All of which is respectfully submitted.

SAMUEL W. FISHER.

A clerical error having been detected in the printed list of requisites for admission to college, as recommended by the last Convocation, to wit, the omission of "Sallust's Catiline," the clerk was requested, on motion of Regent Hale, to give due notice of the facts, to the several colleges of the State.

The following is a true list, according to the original minutes:

Requirements for Admission to College, as recommended by the University Convocation of 1865.

(A.) *Resolved*, That it is desirable that there should be *uniformity* in the requirements for admission to the colleges here represented.

Resolved, That the requirements should be

(B.) In Mathematics: Algebra to equations of the second degree, and plane Geometry.

(C.) In Latin: Four books of Caesar's Commentaries; six books of Virgil's *Æneid*; six select orations of Cicero; Sallust's *Catiline*; Sallust's *Jugurthine War* or the *Eclogues* of Virgil, together with twelve chapters of Arnold's *Latin Prose Composition*.

(D.) In Greek: Three books of Xenophon's *Anabasis*; one book of Homer's *Iliad*, with *Prosody*.

(E.) Prerequisites: Thorough preparation in Arithmetic and English Grammar; a knowledge of Descriptive and Classical Geography, U. S. History, Greek and Roman Antiquities.

Chancellor Ferris, of the University of the City of New York, submitted the following preamble and resolutions, which were duly adopted:

Whereas, It appears from the reports received by the special

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been taken to promote the efficiency and thoroughness of our university system. The subject is one of great practical interest, and I am sure will receive your earnest consideration.

At the last meeting of the Convocation, the Regents have established a system of special examinations in the academies during their visitation, in English grammar, arithmetic and geography. This has met with very general approval, and been productive of very marked results. It is confidently believed that systematically continued this examination will prove to be of great benefit to the whole course of academic instruction. The features of this system will be laid before you. No doubt it will be improved in its details, and the views of the teachers in the academies in regard to its workings and effects will be received with great interest.

Such are some of the subjects which will come before you, and I feel assured that in your deliberations on these and all other matters presented for your consideration you will be governed by the most liberal and catholic spirit, and by a high sense of your influence and your duty.

The Assistant and Acting Secretary, Mr. D. J. Pratt, was authorized to procure any needed clerical assistance from members in attendance.

The Executive Committee previously appointed by the Chancellor, and having in charge the arrangement of the exercises, consisted of Professor Gillespie, of Union College; Professor Gallup, of Madison University; Professor Peck, of Columbia College; Principal Mason, of Albany Academy; Principal Bennett, of Genesee Wesleyan Seminary; Principal Jones, of Delaware Literary Institute; Principal Steele, of Elmira Academy.

[Professor Peck and Principal Bennett were unable to be present at the sessions of the committee and of the Convocation.]

Professor Gillespie, on behalf of the Executive Committee, reported the following partial

ORDER OF EXERCISES.

Sessions (except the first), 9 A. M. to 1 P. M.; 3½ to 5½ P. M.; 8 P. M. Joint Sessions, morning and evening; Sectional Sessions, each afternoon.

Tuesday, August 7.

10½ A. M.; Opening of the Convocation.

11 A. M.; Preliminary Report of the Executive Committee.

11½ A. M.; The Entrance Examination, by Prof. E. North, Hamilton College.

12 M.; Suggestions in regard to teaching advanced classes in Chemistry, by Prof. L. C. Cooley, State Normal School.

1 P. M.; Recess.

COLLEGE SECTION.

3½ P. M.; Report of committee on the requisites for admission to college,—and discussion.

ACADEMY SECTION.

3½ P. M.; The Whole Work of the Academies, by Principal G. W. Jones, Delaware Literary Institute.

4½ P. M.; The Arithmetical Attainments necessary to commence the study of Algebra, by Principal J. H. Hoose, Oswego.

5 P. M.; School Discipline, by Principal A. Flack, Hudson River Institute.

5½ P. M.; Recess.

8 P. M.; The Physical Geography of the State of New York, by Professor J. H. French, LL.D., State Normal School.

[The order of exercises for Wednesday and Thursday will be duly announced.]

The Executive Committee recommended the appointment of a special committee to prepare a report on the University Necrology, several members, including the venerable President Nott, having died during the past year. This recommendation was adopted, and the chair appointed President Fisher, of Hamilton College; Professor Pearson, of Union College, and Principal Williams, of Ithaca Academy.

The following resolution, introduced by Principal Gallup, of Clinton Grammar School, was referred to the Executive Committee, who were requested to report on the subject at the opening of the Wednesday morning session:

Resolved, That in view of the importance of a higher order of instruction in our public schools, to the best success of education in our academies and colleges, we heartily approve of the action of the late Legislature relative to Normal Schools, and congratulate the Regents upon the successful influence exerted in behalf of this new and important scheme of educational improvement.

The Chancellor announced the receipt of a note from His Excellency, Governor Fenton, inviting the members of the Convocation to a social entertainment at his house, at 9 o'clock this evening.

In the absence of Professor North, the time assigned for the reading of his paper was occupied by Professor Tayler Lewis, of

Union College, who read a paper entitled "A Knowledge of the Holy Scriptures an Indispensable Element of Liberal Education."

Regent Wetmore moved a vote of thanks to Professor Lewis for his paper, "so full of great thoughts, wide knowledge and living truths." The motion was seconded by Principal Crittenden, and unanimously adopted. It was also voted, on motion of Regent Luckey, that Professor Lewis be requested to furnish a copy of the paper, together with the scheme of Biblical instruction therein referred to, for publication.

Professor Leroy C. Cooley, of the State Normal School, read a paper entitled "Suggestions in regard to teaching advanced classes in chemistry," after which the Convocation took a recess until 3½ o'clock P. M.

AFTERNOON SESSION—3½ o'clock.

College Section.

The College section met in the Senate Chamber, Regent Wetmore in the chair, and Assistant Secretary Pratt acting as clerk.

President Fisher, on behalf of the special committee appointed by the Chancellor, under a recommendation of the College section of the Convocation of 1865, to report at this meeting some method of securing efficient action upon the requisites for admission to colleges, as recommended by the last Convocation, submitted the following report, which was accepted and adopted:

REPORT.

At the sessions of the Convocation in 1865 it was resolved that in order to secure uniformity in the terms of admission to the colleges of this State, it be recommended to the Faculties of these institutions to adopt the following studies, proficiency in which should be deemed essential to entrance:

In mathematics, algebra to equations of the second degree, and plane geometry.

In Greek, three books of Xenophon's Anabasis, and one book of Homer's Iliad, with prosody.

In Latin, four books of Cæsar's Commentaries, six books of Virgil's Æneid, six select orations of Cicero, Sallust's Catiline, Sallust's Jugurthine War or the Eclogues of Virgil, and twelve chapters of Arnold's Latin Prose Composition.

It was also resolved that the preceding requisites presuppose thorough preparation in arithmetic, English grammar, descriptive geography, classical geography, history of the United States and Greek and Roman antiquities.

The Convocation further request the Chancellor to appoint a committee, to consist of three presidents and four professors, for the purpose of securing the adoption of these terms by the colleges.

This committee met at the rooms of the Regents, on the 24th of April. Present—Chancellor Ferris, President Hickok, President Fisher, Professor Peck, of Columbia College, Professor Glackmeyer, of St. John's College. President Barnard was also present and was invited to sit with the committee.

After a full discussion of the subject, President Fisher was appointed a sub-committee to correspond with the presiding officers of the several colleges, and report to this Convocation. In the course of this correspondence, communications have been received from the Faculties of Rochester University, Genesee and Hobart Colleges, Madison University, Hamilton, Union and Columbia Colleges, the University of the city of New York, and St. John's College, with the following results:

President Eaton, of Madison University, writes that the Faculty unanimously approve of the plan proposed, and will be highly gratified to see it generally enforced by all our colleges.

President Lindsay, of Genesee College, states that the Faculty took action in reference to the resolutions of the Convocation early in the present collegiate year; that they adopted for the classical course substantially what was decided upon at the Convocation, but that the Professor of Geometry thought it better that geometry should be studied under his own supervision. Hence that study was not placed among the requirements for admission.

President Jackson, of Hobart College, says the Faculty are quite ready to accede to the proposed scale of requirements for admission to our colleges in this State.

President Hickok, of Union College, answers that the Faculty "*Resolved*, That the requirements for admission to college decided upon at the University Convocation be adopted by this Faculty, and carried into execution as soon as practicable." He adds: "Our requirements have been, for some length of time, nearly the same as here proposed, except in the requisition of geometry. It is doubtful whether we shall at once make that essential, though we shall not be behind any college in putting ourselves squarely on the platform, and shall urge on all to that point as early as it can be gained."

President Barnard, of Columbia College, writes: "The Faculty of this college are quite willing to conform to any scheme of requisition which may be acceptable to others, provided it be not less in amount than they at present themselves require. The requisites in Latin proposed by the Convocation are such as they could approve. They incline to think that something more should be demanded in Greek—perhaps another book of the Iliad. In mathematics, they are content to accept the requisites recom-

mended by the Convocation, with the qualification that the first and third books of Legendre's Geometry appear to them to be sufficient in that branch."

President Anderson, of Rochester University, says the Faculty are quite ready to make the slight changes in the terms of admission to bring them into harmony with the views of the committee. They will of course reserve to themselves the freedom of judging what will be a fair equivalent (in other books than those named in your report) for the works required to be read by students, in the published regulations.

The Faculty of Hamilton College, early in the present year adopted the programme of studies recommended by the Convocation, and published it in their catalogue.

Chancellor Ferris states that the Faculty of the University of the City of New York have agreed to the same qualifications.

Professor Glackmeyer, of St. John's College, writes that the Faculty accept the requisitions, with the exception of plane geometry.

It will be seen that all these colleges have substantially adopted the qualifications for admission to the Freshman Class, agreed upon last year. The exceptions are only three, and these respect one study, plane geometry. The effect of this exception is, however, bad. It gives the impression that the standard of scholarship is lower there than elsewhere. On the class of students who appreciate and aim at a thorough scholarship, its effect will be to send them to other institutions; while it will attract to such a college those who are in a hurry to enter, and desire to pass with as slender a preparation as possible. This class, however, is the very one on which the elevation of the standard of admission is designed to act. It also embarrasses the teachers in the academies, since it is decidedly for their interest to have the studies uniform, in order not to multiply classes. It should also be remembered that this part of geometry can be as well taught in the academy as in the college. There is nothing in it which demands special mathematical ability or knowledge, and the acquisition of it enables the professor in the college to advance the student into other and higher branches of mathematics than he could do if a term of study had to be devoted to this. It is greatly to be desired, therefore, that in this, as in the other points, the entrance qualifications should be uniform; and it is to be hoped that these institutions will shortly come up to the standard adopted by the other colleges.

In some of the communications from college officers on this subject, two or three points have been dwelt upon, and the action of the Convocation objected to, because no notice, or an insufficient notice, was taken of them. The first of these was the subject of *thoroughness*—the quality rather than the quantity required for admission. On this point it may be permitted to remark, that the

question before us respects a uniform and somewhat advanced standard of admission. This subject is logically distinct from the other, and stands upon grounds peculiar to itself. It is of great importance that our colleges should not be behind the eastern colleges in the requisites for admission; and it is obviously very desirable that the same general course of preparation for college should be pursued in all the academies of the State. We do not intend that the institutions of the Empire State shall suffer either in form or in fact by a comparison with the institutions of any other State; while it will greatly assist the teachers in the academies to have a definite and not a varying standard of preparation for college. On this point, I will not now enlarge. I feel free, however, to go further than this, and to suggest the opinion that the uniformity and advanced character of preparation for the college must have a decided tendency to promote thoroughness. When the Faculty of Hamilton College placed the terms, decided upon by the Convocation, in our catalogue, it was feared that what we might gain in quantity would be lost in quality. At the recent commencement, we admitted a larger number of students than ever before at the same time. Of these, some half a dozen had to be conditioned on the books we had added to our qualifications. Most of these were not aware of the additional requisites, having had only a catalogue of the previous year as their guide. The large majority had not only complied with the advanced conditions, but the standard of preparation was decidedly higher than in any previous year. As we adopt the method of written examinations, we were able to judge truly on this subject. In our experience so far, the advance has worked well. In conversation with the principals of academies, so far as I have met them, I find a decided approval of the action of the Convocation, and an earnest effort to elevate the standard of preparation, not only in quantity, but also in quality. I wish also here to remark, for the encouragement of the Regents, that the system they have adopted in requiring a rigid examination of academic students in geography, arithmetic and grammar, in order to determine the amount of study to be distributed, has had a decided influence in promoting thoroughness in these studies; and, in virtue of that law of affinity which exists between all branches of study and the action of the mind, incidentally, in promoting a better preparation in the classics and mathematics. I think also that the discussions on this subject in the Convocation, for the last two years, have not been without their influence. This question, however, is too broad and too important to be discussed at this time, nor does such a discussion fall properly within the scope of this report. It belongs to this Convocation to take it up year by year, until experience of both theory and practice shall show us how best to secure the truest kind of preparation for college work.

A second point noticed, is the failure to specify that students

will be *examined* on the studies, a knowledge of which is pre-supposed. President Barnard writes, that in the opinion of the Faculty of Columbia College, "there will never be any certainty of the possession of such knowledge on the part of applicants, unless those studies are made subjects of actual examination for admission. Experience proves that youth who are intended for a collegiate education are very rarely obliged to study at school anything but the books on which they are to be examined for admission, and accordingly many young men enter college at the present time with an exceedingly imperfect knowledge of modern or ancient geography, or the grammar of their own language, or the history of their own country. These things ought to be requisitions, and if they be not subjects of examination for admission, the fact that they have received proper attention ought to be established by some satisfactory mode of verification." These observations are unquestionably correct. The Convocation, in regarding them as pre-supposed, did not mean to have it understood that no examination or verification of the knowledge of the student, in regard to them, was to be had. They supposed each college would take its own course in the matter. In the opinion of the undersigned, it would be better to have them stated in the requisitions for admission precisely as in the requirements in Latin and Greek. This would obviate the difficulty. Whether the student shall in all cases be examined by the faculty, or a Regents' certificate of examination on part of these requisitions shall be accepted as satisfactory, must be determined by each college for itself.

A third point made in one of these communications is that certain other studies not mentioned in the requisitions, especially the sciences of observation and experiment, and certain of the modern languages, ought to be pursued before the study of the ancient languages. Dr. Barnard is quite earnest on this point, and when he brought it before the committee, he was requested to prepare a paper on it, to be read at this meeting of the Convocation. I deem it sufficient, therefore, to state the point, without attempting to anticipate the discussion which it will probably receive.

It will be seen by the Convocation that we have made a decided advance towards uniformity in the formal requisitions for admission to college. It remains for us to determine in what way greater thoroughness in these studies can be secured, and whether any other studies should be added to them.

President Anderson urges another point as in his view of great importance. He says we—the Faculty of Rochester University—wish to put ourselves on record as holding grave doubts regarding all efforts for giving a more thorough scholarship, which look only towards action on the entire body of students, without discrimination to be made during their college course, both in the *amount and quality* of the work to be done and in the reputation

which it shall confer. But a small portion of those who ought to have a liberal education are fitted to become good scholars. Those who are thus able, should be furnished with a career for study and incentives thereto, which shall secure vastly higher results than can be reached by the average of men. It is precisely these few learned men which American education needs for its adequate development. We have enough moderately learned men, but are suffering severely for men trained as are the English class men and wranglers, and the French Agrégés. I for one look for the permanent elevation of our educational system through well directed efforts to secure a *few* such scholars as these, rather than to attempt to raise the whole body of students to a height they can never reach." As this subject is one of importance, I have given this extract a place in this report, not to discuss it here, but to bring it before the Convocation for separate discussion.

All of which is respectfully submitted.

SAMUEL W. FISHER.

A clerical error having been detected in the printed list of requisites for admission to college, as recommended by the last Convocation, to wit, the omission of "Sallust's Catiline," the clerk was requested, on motion of Regent Hale, to give due notice of the facts, to the several colleges of the State.

The following is a true list, according to the original minutes:

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(B.) In Mathematics: Algebra to equations of the second degree, and plane Geometry.

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(D.) In Greek: Three books of Xenophon's *Anabasis*; one book of Homer's *Iliad*, with Prosody.

(E.) Prerequisites: Thorough preparation in Arithmetic and English Grammar; a knowledge of Descriptive and Classical Geography, U. S. History, Greek and Roman Antiquities.

Chancellor Ferris, of the University of the City of New York, submitted the following preamble and resolutions, which were duly adopted:

Whereas, It appears from the reports received by the special

committee appointed by the Chancellor of the Board of Regents, that the colleges of this State have expressed assent to the requisites for admission agreed upon at the annual meeting of the University Convocation of 1865,

1. *Resolved*, That it is recommended that the admissions to the Freshman Classes in the colleges of this State be governed by these requisites as early as practicable, certainly not later than two years.

2. *Resolved*, That the academies of this State are hereby earnestly requested to modify their courses of study so far as necessary to meet these requirements, and that the utmost thoroughness be aimed at.

3. *Resolved*, That as the object we have in view is one of common interest to all educators—all private classical schools are requested to accommodate their course to meet this effort to secure uniformity in preparation for admission to the Freshman Class.

4. *Resolved*, That the Regents of the University be requested to correspond with the authorities of colleges out of the State, soliciting their union with the colleges in this State, in securing the adoption of the above requisites for admission to college.

Professor Upson, of Hamilton College, offered the following resolution, which was adopted:

Resolved, That the representatives of the various colleges here assembled pledge themselves, so far as may be in their power, to enforce these requisites in their entrance examination.

On motion of Regent Hale, the following resolution was adopted:

Resolved, That the prerequisites specified in the requirements recommended by the Convocation for admission to college ought to be ascertained, and the qualification of the student determined, either by an examination of the respective college faculties, or by the certificate of the academic examination, under the regulation of the Regents.

Chancellor Ferris made a suggestion in regard to the desirableness of the stenographic art in taking notes of college lectures, &c.

Professor Gillespie stated that his experience is decidedly in favor of "short-long hand," as it is called, in preference to "short hand."

Regent Hale endorsed the views of Professor Gillespie on this subject.

President Eaton, of Madison University, inquired whether students should be received by one college from another, simply *ad eundem*, or only upon examination, and whether uniformity on the part of the colleges in this respect is desirable.

Prolonged discussion ensued, which resulted in the adoption of the following resolution, offered by Professor Gillespie:

Resolved, That it is the opinion of this College Section of the University Convocation that it is very desirable that students bringing certificates of their membership of any class in one college, should not be admitted to the corresponding grade in another college, without examination.

The clerk was instructed to report the proceedings of this College section to the Convocation, at the opening of the Wednesday morning session. The section then adjourned to meet to-morrow (Wednesday) afternoon at three and one-half o'clock.

Academy Section.

The Academy section met in the Assembly Chamber at 3½ o'clock, Regent Rankin in the chair, and Principal Mason, of Albany Academy, acting as clerk.

The paper by Principal Jones, of Delaware Literary Institute, which had been announced as the opening subject, owing to that gentleman's absence, was omitted.

Professor James H. Hoose, late of Genesee Wesleyan Seminary, read a paper on "The Arithmetical Attainments necessary to commence the study of Algebra." The subject was discussed at considerable length by Regent Luckey, Superintendent Rice, Professor Jewell, Principal Clarke and others.

Principal Alonzo Flack, of Hudson River Institute, read a paper on "School Discipline," which was discussed by Dr. J. B. Thomson, Superintendent Rice, Secretary Woolworth, Principal McVicar, Professor Frost and others.

The Academy section then adjourned until to-morrow (Wednesday) afternoon, at 3½ o'clock.

EVENING JOINT SESSION.

The Chancellor announced the receipt of letters from Vice Chancellor Gulian C. Verplanck, Regent Goodwin and President Jackson, of Hobart College, severally regretting their inability to be present at the sessions of the Convocation.

In the absence of Professor French, Professor Frederick S. Jewell, of the State Normal School, read a paper on "The relation of Analysis as an Art to the Art of Teaching."

Professor N. T. Frost, of Hudson River Institute, read a paper entitled "The Social Position of the Teacher."

The hour of nine having arrived, the Convocation adjourned to

meet on Wednesday morning at 9½ o'clock, and the members repaired to the Executive Mansion, in accordance with the invitation of His Excellency, Governor Fenton.

SECOND DAY.

MORNING JOINT SESSION—9½ o'clock.

The session was opened with prayer by Rev. Dr. Ferris.

Chancellor Pruyn invited the members of the Convocation to a social entertainment at his house, at the close of the evening session.

The minutes of the joint sessions of the first day were read and approved.

The Executive Committee reported the following continued

ORDER OF EXERCISES.

Wednesday, August 8.

Morning joint session—9½ A. M.

1. Report of Executive Committee on order of business, &c.
2. Report from College section on requirements for admission to college.
3. The Studies proper to be pursued preparatory to College, by President F. A. P. Barnard, S.T.D., LL.D., of Columbia College.
4. The Entrance Examination (deferred from yesterday), by Professor Edward North, of Hamilton College.
5. Address by Rev. James McCosh, LL. D., of Belfast, Ireland.

1 P. M.—Recess.

Afternoon joint session—3½ P. M.

6. Classical Training, by Professor A. F. Monroe, of the College of St. Francis Xavier.

COLLEGE SECTION.

7. The proper ratios of the times given to the various studies of the College *Curriculum*.

ACADEMY SECTION.

8. Report on Preliminary Academic Examinations, by special committee, Principal McVicar, of Brockport Collegiate Institute, chairman.
9. Necessity of raising the salaries of Teachers, by President Anderson, of Rochester University.
10. The Whole Work of the Academies (deferred from yesterday), by Principal G. W. Jones, of Delaware Literary Institute.

Evening joint session—8 P. M.

11. Address by Professor Arnold Guyot, LL.D., of Princeton, N. J., or by Prof. J. H. French, LL.D., on the Physical Geography of the State of New York.

The Executive Committee, to whom had been referred a resolution concerning Normal Schools, introduced by Principal Gallup, reported the same back to the Convocation without recommendation. After sundry motions had been offered and discussed, it was resolved, on motion of Chancellor Pruyn (Regent Wetmore in the chair), to lay the subject on the table.

The minutes of the College section of Tuesday afternoon were reported to the Convocation. The report of the special committee on "The requisites for admission to college" was made the subject of extended discussion by President Eaton, Professor Davies, President Anderson, Chancellor Ferris, Regent Hale, Secretary Woolworth, Principals Flack, King, Clarke, Wells, Jones and others.

During the course of the discussion, Regent Benedict announced the arrival of Rev. Dr. McCosh, of Queen's College, Belfast, Ireland, and President Hopkins, of Williams College, Massachusetts, and moved that they be invited to take seats with the Convocation and participate in its deliberations. The motion was seconded by President Fisher and unanimously adopted.

It was also resolved, on motion of Regent Rankin, seconded by Regent Benedict, that Dr. McCosh be invited to address the Convocation, at the opening of the afternoon session, on the state of education in Great Britain and Ireland.

After further discussion of the report on the requisites for admission to college, it was adopted as the sense of the Convocation (having been previously indorsed by the College section).

The several resolutions adopted by the College section were taken up as one proposition, and after discussion by President Fisher, Principals Fuller, Dann and others, were reaffirmed as the sense of the Convocation.

Professor J. B. Thomson offered the following resolution, which was referred to the Executive Committee:

Resolved, That the Regents be requested to correspond with the Faculties of the law and medical schools of this State, with a view to secure their coöperation in elevating the standard of preliminary qualifications for entering upon the studies of these honorable and important professions.

The Executive Committee announced a change in the programme of exercises, rendered necessary by the protracted discussions of the present session, and by the special order in relation to the address of Dr. McCosh.

The Convocation then took a recess until 3½ o'clock P. M.

AFTERNOON JOINT SESSION—3½ o'clock.

The Chancellor announced the receipt of a note from Professor Hough, Director of the Dudley Observatory, inviting the members of the Convocation to visit that institution during their stay in the city. The Chancellor also announced that the State Cabinet of Natural History, and the Bureau of Military Record are open to visitors daily.

Rev. James McCosh, LL.D., of Queen's College, Belfast, Ireland, was introduced, and addressed the Convocation on "Liberal Education in Great Britain and Ireland."

At the conclusion of this address Regent Benedict offered the following resolution, which was seconded by President Fisher and unanimously adopted by the Convocation, by rising:

Resolved, That the thanks of the University Convocation of the State of New York be presented to the Rev. James McCosh, LL. D., of Queen's College, Belfast, Ireland, for his very clear, impressive, instructive and satisfactory account of the colleges and universities of Great Britain and Ireland, and for his very suggestive thoughts on the subject of the higher seminaries of learning.

President F. A. P. Barnard, LL.D, of Columbia College, read a paper entitled "The studies proper to be pursued preparatory to College."

An invitation, at the suggestion of the Chancellor, was extended to Hon. John A. Kasson, M. C., of Iowa, to present a brief statement in relation to the decimal system of weights and measures, as recently sanctioned by act of Congress, at the opening of the evening session.

It was also voted that the evening session commence at 7½ o'clock, to which hour the Convocation then adjourned.

EVENING JOINT SESSION—7½ o'clock.

In accordance with the special order adopted at the close of the afternoon session, Chancellor Pruyn introduced the Hon. John A. Kasson, M. C., of Iowa, who made an elaborate statement in regard to the various systems of weights and measures, and the reform now being introduced in connection with the decimal system.

Secretary Woolworth alluded to the fact that a paper on this subject was prepared for the last Convocation by Prof. Kimball, of the State Normal School, and which will soon appear in the published proceedings.

Regent Hale moved that the thanks of the Convocation be presented to the Hon. Mr. Kasson, for his statement on the present occasion, and for his efficient public service in this department of scientific research and legislation.

The motion was unanimously adopted.

Prof. Davies moved that this subject be referred to a committee of three, to report at the next annual session of the Convocation what further action may be desirable in the premises.

Regent Wetmore moved to amend by inserting the names of the committee, as follows: Chancellor Pruyn, Professor Davies and Regent Hale.

The motion, thus amended, was unanimously adopted.

The report of a special committee of principals of academies, appointed some months since by the Chancellor, to consider the practical workings and results of the system of written preliminary academic examinations, instituted by the Regents, was, on motion, in order to accommodate members who cannot hereafter be present, introduced at this time by Principal M'Vicar, of Brockport Collegiate Institute (Regent Hale in the chair).

REPORT.

The committee appointed by the Chancellor of the University to report upon the practical workings and results of the preliminary academic examinations, instituted by the Board of Regents during the past year, beg leave to report as follows:

Your committee have carefully examined into the practical workings of this system of examinations, as reported by the principals or committees of the various academies, and would state that it is conceded, in almost every case, that the evident result of the general plan will be to elevate the standard of scholarship in our academies. But while this is granted, various objections have been raised against the practical carrying out of the plan, the principal of which are as follows:

It is objected, first, that an injustice is done by this plan to academies located in rural districts, because, first, the preparation given in the elementary branches in our district schools is inferior to that given in the graded schools of the cities and larger villages; second, a large proportion of the pupils attending such academies are young men and ladies, who can attend only in the

winter term, and who in most cases have not studied the branches required, for years, and whose time and means will not allow them to review. It is urged as a consequence from these two considerations, that the city high schools and academies in larger villages will be able to pass a larger proportion of the number in attendance than the academies in rural districts, and hence receive more than their just share of the Literature Fund.

It is objected, second, that many of our best academies receive students from other States, and should we insist upon such a rigid ordeal for admission as academic scholars, it would result in driving such students from these academies, and hence diminish their attendance and the amount received from the Literature Fund.

It is objected, third, that fairness cannot be secured in carrying out the instructions of the Regents. This unfairness is urged on the ground, first, that some principals may secretly open the questions and prepare the pupils for the examination; second, that there may be a collusion between the teachers and pupils, so that assistance may be given at the time of examination; that there may be a collusion between the principal and those who have been examined—the principal, for example, may return the answers to their authors, for re-writing after correction. One case has been brought before your committee, where they have *positive* evidence that papers were returned to the pupils three and four times for re-writing after correction, before being handed to the examining committee. Finally, that there may be a collusion between the examining committee and principal.

Unfairness is urged, also, on the ground that it is impossible for the different committees to adopt the same standard in examining the written answers, and consequently many are passed in some academies which would be rejected in others.

It is objected, fourth, that the questions prepared by the Regents are too difficult, and in many instances cannot be answered from the text books in use in our academies.

Other minor objections, which deserve no special notice, have been raised, such as that ladies are constitutionally too weak to endure such examination; "that the report to be rendered to the Regents is too much hemmed in by oaths, &c."

It is obvious to your committee that no plan can be adopted which will be free from objections which are purely local or arise out of the inefficiency of those who execute the plan. Such objections can only be obviated by removing the local cause.

The four objections cited above are not of this class. They are founded upon difficulties which if not met will, to a very great extent, hinder the workings of the plan.

The first difficulty arises out of the fact that pupils attending graded schools pass their examinations just when they finish those studies, while those attending district schools are obliged to wait until they enter an academy, which is frequently after an

interval of one or two years. The second difficulty arises out of the fact that in graded schools there is always a fixed course of study, in which can be constantly kept in view this examination. Thus there is an object held out for the pupil to attain, while in the present state of our district schools the pupils are tossed hither and thither in the various studies, as may serve the peculiar notions and purposes of every new teacher. The pupil in this case becoming discouraged, is made superficial in all the elementary branches. The third difficulty arises from the unfairness which may be practiced, should the plan pursued during the past year be continued.

In view of the great disparity between the schools which prepare pupils for these examinations and the unfairness that may be practiced, it is evident to your committee that, in order to secure the best results in elevating the standard of academic scholarship, the examinations must be placed in such a relation to the schools which prepare the candidates and those which receive them, as to secure perfect justice.

The questions should be expressed in simple language, devoid of all ambiguity and the special terminology of any author.

In arithmetic the questions should be upon no topics except those which are clearly discussed in what are known as practical arithmetics.

In grammar no question should be proposed upon disputed points, and no sentence should be given for analysis containing disputed constructions, antiquated forms of expression, or constructions whose tendency is to embarrass and puzzle rather than elicit the candidate's knowledge.

In the preparation of questions on arithmetic and grammar, it should be borne in mind that these studies, in their more advanced form, constitute a part of the academic course, and hence the questions should be elementary and not exhaustive.

In geography, while the questions should extend over the entire range, two extremes should be avoided. They should not be so general as to require only a vague and indefinite knowledge of the subject to answer them, nor, on the other hand, so particular as to be too difficult for any except those who have made the subject a speciality.

No questions should be asked upon recent changes of boundaries, new territories, &c., which have not been incorporated into the geographies in common use. The questions upon each subject should be printed upon separate slips of paper and a sufficient number sent to the examining boards to enable them to furnish each candidate with a copy, at the time of examination upon each subject.

The number of questions proposed on each subject should not exceed twenty; and the time allowed to answer any set of questions should be left to the discretion of the examining committee.

Method of Examining Answers.

A numeral value should be attached to each question by the committee that proposes them, and a copy of this valuation sent to the chairman of each examining board, whose duty it will be to use said valuation in the examination of answers, as follows:

That portion of the value assigned to each question which is indicated by the part of the question answered, should be placed in the margin of the candidate's paper. The sum of these values will be the numerator, and the sum of all the valuations the denominator of a common fraction, which, on being reduced to a decimal, will give the rate per cent. That this may be clearly understood, take the following example: Let three questions be given, the first valued at ten, second at seven, third twelve. Suppose that seven-tenths of the first is answered correctly, six-sevenths of the second and three-fourths of the third, seven-tenths of ten, the value of the first, is seven; six-sevenths of seven, the value of the second, is six; three-fourths of twelve, the value of third, is nine. Collecting all these values for a numerator, and the whole value of the questions for a denominator, we have $7+6+9=22$ for a numerator, and $10+7+12=29$ for a denominator. The fraction twenty-two twenty-ninths, reduced, give seventy-six per cent nearly. Suppose the candidate has made eight mistakes in spelling. Deducting one-quarter per cent for each mistake, the scholarship of the candidate will be seventy-four per cent.

Certificates.

That blank certificates, prepared and signed by the Secretary of the Board of Regents, should be forwarded to each committee of examination. These certificates, when filled and countersigned by the chairman of the examining board, should be given to each candidate whose standing is *at least* fifty per cent of the valuation of each set of questions, with an average of seventy-five per cent of the whole valuation of the three sets.

In addition to the certificates just described, *honor certificates*, prepared in like manner, should be granted to all candidates whose average standing is at least ninety per cent of the whole valuation of the three sets of questions.

All pupils in any academy who have at any time been reported and accepted by the Regents as academic scholars, should receive certificates without attending any examination, by applying to the president of the board of trustees of the academy by which they were last reported. Said certificate should be prepared and signed by the Secretary of the Regents, and countersigned by said president of board of trustees.

Your committee would also suggest that a special record of all those who have received honor certificates be made by the Secretary of the Regents, and that their names, together with that of

the teacher under whom they prepared, be published in the State paper, and in the papers of the county or city in which they reside.

All of which is respectfully submitted.

After the reading of the report, Secretary Woolworth made a summary statement of the mode of distributing the income of the Literature Fund, under the existing statute, and the system of preliminary examination prescribed by the statutes of the State, and the several supplementary ordinances of the Regents, including that of July 27, 1864, in accordance with which the written examinations of the last year have been conducted.

After a brief discussion of the report, the Convocation adjourned to Thursday morning at nine o'clock, whereupon the members, according to invitation, repaired to the residence of Chancellor Pruyn.

THIRD DAY.

MORNING JOINT SESSION—9 o'clock.

The Convocation united in the use of the Lord's Prayer, led by Rev. Regent Parks, who also pronounced the apostolic benediction.

The Executive Committee reported the following concluding

ORDER OF EXERCISES.

Thursday, August 9.

Morning joint session—9 A. M.:

1. Report of Executive Committee.
2. The Entrance Examination, by Professor North.
3. Classical Training, by Professor A. F. Monroe.
4. Discussion on preliminary academic examinations, continued.

1 P. M.—Recess.

Afternoon joint session—3½ P. M.:

*5. Address on Geographical Science, by Professor Arnold Guyot, LL.D., of Princeton, N. J.

6. The Physical Geography of the State of New York, by J. H. French, LL. D.

COLLEGE SECTION.

7. The Introduction of Christian Greek and Latin into Colleges, by President Anderson, of Rochester University.

8. Tabular presentation of the Requirements for admission to College, by D. J. Pratt, Regents' office.

9. The ratios of the times to be given to the various studies of the College *Curriculum*.

10. Provisions for some degree of Art Education in Colleges by President Anderson.

ACADEMY SECTION.

11. The Whole Work of the Academies, by Principal G. W. Jones, of Delaware Literary Institute.

12. Normal School Training, by Principal Oliver Arey, State Normal School.

13. The Establishment of an Educational Exchange, by James Cruikshank, LL.D., of Brooklyn.

14. Importance of the study of the Natural Sciences, by Principal S. G. Williams, Ithaca Academy.

JOINT SESSION:

15. Miscellaneous business.

16. Adjournment, *sine die*.

The Executive Committee, to whom was referred the resolution of Professor J. B. Thomson concerning law and medical schools, submitted during the Wednesday morning session, recommended the adoption of the resolution. The report of the committee was accepted, and the resolution was adopted.

Professor Edward North, of Hamilton College, read a paper on "The Entrance Examination," and submitted the following resolution, which was adopted:

Resolved, That a committee of three be appointed by the Chair to report at the next Convocation on the question: "At what age is it expedient and desirable that young men should be admitted to college?"

The Chair (subsequent to the adjournment) appointed Professor North, of Hamilton College, President Barnard, of Columbia College, and Principal Mason, of Albany Academy.

President Fisher, on behalf of the special committee appointed for the purpose, read the following report on the University Necrology for 1865-6, which was accepted and adopted:

UNIVERSITY NECROLOGY.

Since our last meeting the Rev. Eliphalet Nott, D. D., LL.D., has entered into his rest. It is not for this Convocation to pronounce his eulogy. The four thousand graduates of the institution over which he presided for sixty-two years, illustrate his character more fully than any words of ours. In comparison with

the influence which, through these minds trained and moulded under him, he has exerted and is still exerting upon society, language is almost meaningless. Great as he was in the pulpit, he was equally great as an instructor. Remarkable for an eloquence that enlightened and moved masses of men, he was not less remarkable for his personal power over individual minds. While great men in the church and State came to him for counsel, while he was recognized as a light and a power in this community, for half a century, by all classes, yet it is chiefly as an educator that his name is to be revered by us, and that he will be remembered in the future. It is impossible for us to gain even a proximate estimate of the influence he has exerted, during his long and brilliant career, over the educational interests of this and other States. As well may we endeavor to measure the influence of the sun in its march over a continent, as to estimate the germinant power of such a mind working through other minds, in promoting the highest interests of both the church and State, in the training of the young. It is for others to speak of him as an able minister of the gospel and an eloquent reformer; it is for us to record our high estimate of him as an educator of youth. Animated by the profoundest religious convictions, he sought to build up science upon the firm basis of christianity, and in developing the intellect, to impress the heart with the purest motives for action. The institution which he found little more than an academy, and made a great college, will ever remain his monument. The thousands who have gone forth from its walls will perpetuate his influence, while all who value learning, eloquence and piety, will unite in giving him a place among those who have labored most effectively to enlighten, elevate and purify society.

We are called also to record the death of Henry Howe, one of the oldest and most successful teachers in the State. Born in Shoreham, Vermont, educated at Middlebury College, for a time Principal of Castleton Seminary, and of the Academy at Pompey Hill, then Principal of the Academy at Canandaigua, where his chief work was performed. He presided over this institution until 1849, for a period of twenty-one years. "His work was that of a most pure, sincere Christian teacher, and his memory is fragrant with the odor of faith and love." The academy at Canandaigua owes much of its subsequent prosperity to his enlightened and faithful labors. He died on the 6th of June, 1865, at the age of sixty-eight years.

During the past year, Harvey R. Butterworth, Principal of the Academy at Pulaski, has died. He graduated at Hamilton College in 1863, with an excellent reputation for scholarship and good character. He almost immediately took charge of this academy, and had been quite successful in its administration, when his bright promise of usefulness was clouded by death.

We also record the death of Rev. Joseph B. Eastman, a gradu-

ate of Dartmouth College, and Principal of the Windsor Academy. The committee have not been able to gather any other facts in reference to Mr. Eastman.

After the reading of the foregoing report, the following additional facts in relation to Mr. Eastman were furnished by Regent Hale:

"Mr. Eastman was, for many years, Principal of the Academy at Montpelier, and also at Burlington, Vermont. He was a conscientious and faithful teacher, and a ripe scholar. Having pursued a course of theological study, he devoted himself, for some years after leaving Vermont, to the duties of that profession, but afterwards returned to his former vocation, in which the last years of his life were spent."

Professor A. F. Monroe, of the College of St. Francis Xavier, in accordance with a request of the Convocation of 1865, read a paper on "Classical Training."

The subject of the paper was discussed at some length by Prof. Davies.

On motion of President Fisher, a vote of thanks was unanimously tendered to Prof. Monroe for his very able and instructive paper.

Further discussion on the subject of written preliminary academic examinations being next in order, the officers of colleges retired to the Senate Chamber.

COLLEGE SECTION.

The section entered upon the order of business as arranged by the Executive Committee, Regent Benedict in the chair.

President M. B. Anderson, LL.D., of Rochester University, read a paper on "The Introduction of Christian Greek and Latin into Colleges."

The subject of the paper was discussed by Warden Fairbairn, of St. Stephen's College, and President Fisher, of Hamilton College, the latter of whom moved the following resolution, which was adopted:

Resolved, That President Anderson and Professors Kendrick and Lewis, be requested to prepare a paper on the Greek and Latin authors subsequent to the era of Christianity, a compilation from whose writings would be suitable to be read in colleges, with the reasons for the same.

A tabular view of the requirements for admission to the several colleges of this State, and to several colleges of other States, pre-

pared by Assistant Secretary D. J. Pratt, was furnished, in printed form, to the members of the section.

Professor Gillespie submitted the following resolution, which was adopted:

Resolved, That the thanks of this section are due to Assistant Secretary Pratt for his very valuable tabular presentation of the requirements for admission to the colleges of this State, and prominent colleges in other States.

The subject entitled "The ratios of the times to be given to the various studies of the College *Curriculum*," was submitted by Professor Gillespie, who proposed the following resolutions, which were adopted:

Resolved, That Mr. Pratt be requested to prepare for the next Convocation an analogous presentation of the corresponding college *curricula*.

Resolved, That these tables shall show how many hours in the entire four years' course are given to the following classes of studies: pure mathematics, applied mathematics (embracing all physics mathematically treated); natural sciences (chemistry, geology, botany and natural history); Latin and Greek; modern languages; history, rhetoric and belles lettres; mental science, moral science and religion.

Professor Anderson read a brief paper on "Provisions for some degree of Art Education in Colleges."

President Hopkins, of Williams College, Chancellor Ferris and President Fisher, expressed their warm thanks for the views presented by President Anderson.

After further remarks on the subject by Professor Avery, the College section adjourned *sine die*.

ACADEMY SECTION.

The subject of written preliminary academic examinations being under consideration (Regent Wetmore in the chair), Principal Steele, of Elmira Academy, submitted a series of resolutions, which were discussed by Superintendent Rice, Secretary Woolworth, Professors Jewell and Hoose, Principals Clarke, J. Jones, Williams, Hovey, King, McVicar, Wells, Flack and others, and which, as amended, were adopted in the following form:

1. *Resolved*, That the academic teachers of this Convocation recognize the necessity of elevating the standard of scholarship in the institutions under our charge, and deplore especially the want of thoroughness on the part of our pupils in the common English branches.

2. *Resolved*, That we fully appreciate the efforts of the Regents to meet this deficiency; that we approve the general plan of the system of examination now adopted by them, and promise to give it our heartiest support.

3. *Resolved*, That the members of this Convocation respectfully recommend to the Regents of the University the consideration of the suggestions of the committee on examinations, in regard to the character of the questions which shall be sent out for future examinations, and especially with regard to the method of valuations suggested by the same committee. •

4. *Resolved*, That we most earnestly recommend to the teachers in all the preparatory schools and academies of the State, to devote especial attention to instruction in reading, spelling and writing—branches which form the only sure basis of a practical or a liberal education.

The college section having adjourned, and the members having returned to the Assembly Chamber, the joint session was resumed.

JOINT SESSION.

Regent Benedict, as chairman of the College section, reported its proceedings to the Convocation.

Regent Wetmore moved the adoption of the following resolution, which passed by a unanimous vote:

Resolved, That the presidents of the colleges of this State be a committee to collect and report to the next Convocation the materials for forming the "Military roll of honor" of the educational institutions of the State of New York, in connection with the great and successful struggle for maintaining the life and honor of the nation.

Professor Jewell offered the following resolution, which was, after much discussion, adopted:

Resolved, That a committee of three be appointed by the Chair to report at the next meeting the true theory of Normal schools, and their practical relation to both the common schools and the academies.

The Chair announced as such committee Professor Jewell, Superintendent Rice and President Anderson.

The following resolutions were unanimously adopted:

On motion of Principal Flack:

Resolved, That we recommend to the Regents of the University to prepare papers for the written examinations in the higher English branches and the classics, for those academies that desire to come into such examination.

On motion of Principal Mason:

Resolved, That the Regents be requested to appoint a committee

tee of three, who shall consult with the Faculties of the various colleges, and with other teachers throughout the State, concerning the advisability of having the entrance examination to college conducted in whole or in part by a special board of examiners, to be appointed by the Regents, said committee to report the result of their inquiries and their own recommendations on the subject to the next Convocation.

On motion of Secretary Woolworth it was resolved that when this session of the Convocation adjourns, it be to meet at 3 o'clock P. M., to listen to an address by Professor Guyot, of Princeton, New Jersey.

The Chancellor, in pursuance of a resolution of the Convocation of 1865, appointed the following committee of Regents and principals of academies, to report at a future time on the subject of suitable course of study and appropriate testimonials for females in the higher institutions of State, to wit: Regents Benedict, Perkins and Hale, and Principals Flack, of Hudson River Institute, Crittenden, of Packer Collegiate Institute, and Gallup, of Clinton Grammar School.

The Convocation then took a recess until 3 o'clock P. M.

AFTERNOON SESSION—3 o'clock.

The Chancellor introduced Professor Arnold Guyot, LL.D., of Princeton, New Jersey, who addressed the Convocation on the science of Physical Geography and its relations to the various nationalities and grades of civilization.

On motion of Secretary Woolworth, the thanks of the Convocation were unanimously tendered to Professor Guyot for his able presentation of this important educational topic.

The hour for the final adjournment having nearly arrived, under the head of miscellaneous business, Chancellor Pruyn announced the Executive Committee for the ensuing year as follows: Professor Upson, of Hamilton College, Professor Perkins, of Union College, Professor French, of the State Normal School; Principals Clarke, of Canandaigua Academy, Crittenden, of Packer Collegiate Institute, Wells, of Peekskill Military Academy, and Steele, of Elmira Academy.

On motion, the thanks of the Convocation were tendered to His Excellency, Governor Fenton, for his courteous entertainment of the members at the Executive mansion on Tuesday evening last, and to Chancellor Pruyn for his hospitality on Wednesday evening.

The Chancellor thanked the members, in behalf of the Board of Regents, for their earnest coöperation in all the measures devised for the advancement of the cause of education in this State, and declared the Convocation adjourned to meet on the first Tuesday of August, 1867.

REGISTERED MEMBERS OF THE CONVOCATION OF 1866.

Board of Regents.

J. V. L. Pruyn, LL.D., Chancellor; R. E. Fenton, Governor; V. M. Rice, Superintendent of Public Instruction; Prosper M. Wetmore, New York city; Samuel Luckey, D. D., Rochester; Erastus C. Benedict, LL.D., New York city; Isaac Parks, D. D., Whitehall; Robert G. Rankin, Newburgh; Robert S. Hale, M. C., Elizabethtown; George R. Perkins, LL.D., Utica; S. B. Worth, LL.D., Secretary; Daniel J. Pratt, Assistant Secretary.

Colleges.

Columbia College—President F. A. P. Barnard, S. T. D., LL.D.; Prof. C. Davies, LL.D.

Union College—President L. P. Hickok, LL.D.; Prof. Taylor Lewis, LL.D.; Prof. W. M. Gillespie, LL.D.; Prof. Jonathan Pearson, Prof. M. Perkins.

Hamilton College—President S. W. Fisher, LL.D.; Prof. C. Avery, LL.D.; Prof. N. W. Goertner, D. D.; Prof. Edward North, Prof. Oren Root, Prof. A. J. Upson, Prof. C. H. F. Peters, Ph. D.

University of the City of New York—Chancellor Isaac Ferris, LL.D.; Prof. James Hyatt.

Madison University—President G. W. Eaton, D. D.; Prof. E. S. Gallup, Prof. N. L. Andrews.

University of Rochester—President M. B. Anderson, LL.D.; Prof. A. C. Kendrick, D. D.

St. John's College—Vice-President H. P. Glackmeyer, S. J.

Genesee College—President J. W. Lindsay, D. D.; Prof. W. P. Codrington.

College of St. Francis Xavier—Prof. A. F. Monroe, S. J.

Ingham University—Chancellor S. D. Burchard, D. D., Prof. William L. Parsons.

College of the City of New York—Prof. Adolph Werner; Tutor Alfred G. Compton; Trustee Smith Bloomfield.

St. Stephen's College—Warden R. B. Fairbairn, D. D.

State Normal School—Principal Oliver Arey, Prof. F. S. Jewell, Prof. R. G. Kimball, Prof. L. C. Cooley, Prof. J. H. French, LL.D.

Rensselaer Polytechnic Institute—Prof. James Hall, LL.D.

Dudley Observatory—Director G. W. Hough.

University Club of New York City—Secretary Edward Mitchell.

University of Missouri—Prof. O. Root, Jr.

Antioch College, O.—Prof. Edward Orton.

New York State Teachers' Association.

Ex-President J. B. Thomson, LL.D., New York city; President S. G. Williams, Ithaca; T. S. Lambert, Peekskill.

Department of Public Instruction.

Deputy Superintendent S. D. Barr; Professor M. P. Cavert.

Academies.

Academy of Little Falls—Principal L. D. Miller.

Addison Academy—Late Principal T. B. Stowell.

Albany Academy—Principal J. W. Mason.

Albany Classical Institute—Late Principal C. H. Anthony.

Andes Collegiate Institute—Principal P. Smeallie.

Argyle Academy—Principal W. H. McLaren.

Auburn Academy—Principal C. W. Bowen.

Baldwinsville Academy—Principal W. A. Welch.

Brockport Collegiate Institute—Principal M. McVicar.

Canandaigua Academy—Principal N. T. Clarke.

Cary Collegiate Seminary—Principal J. R. Coe.

Claverack Academy and Hudson River Institute—Principal A. Flack, Professor R. C. Flack, Professor N. T. Frost.

Clinton Grammar School—Principal J. C. Gallup.

Deaf and Dumb Institution—Professor O. W. Morris.

Delaware Literary Institute—Principal G. W. Jones, Professor W. A. Anthony.

De Ruyter Institute—Principal A. Whitford.

Elmira Academy—Principal J. Dorman Steele.

Falley Seminary—Professor E. A. Briggs.

Fort Edward Collegiate Institute—Principal J. E. King, D. D., Prof. J. M. King.

Fredonia Academy—Principal H. T. Fuller.

Genesee Valley Seminary—Principal J. Hendrick.

Genesee Wesleyan Seminary—Late Professor J. H. Hoose.

Geneseo Academy—Principal J. Jones.

Gilbertsville Academy and Collegiate Institute—Principal J. J. Pease.

Hoosick Falls Union School—Principal J. L. Bothwell.

Hudson Academy—Principal W. P. Snyder.

Johnstown Academy—Principal A. Whigam.

Keeseville Academy—Principal C. R. Ballard.

Knoxville Academy—Principal G. H. Quay.

Lawrenceville Academy—Principal H. L. Ward.

Le Roy Academic Institute—Late Principal C. K. Lombard.

Manlius Academy—Principal H. S. Hickok.

Mechanicville Academy—Principal C. C. Wetsell.

Monroe Academy—Late Principal Wm. H. Whitney.

Munro Collegiate Institute—Principal T. K. Wright.

Newark Union Free School—Principal J. Wilson.

New Paltz Academy—Principal J. Hasbrouck.

Oneida Conference Seminary—Professor H. F. Fisk.

Ontario Female Seminary—Principal B. Richards.

Packer Collegiate Institute—Principal A. Crittenden, Ph. D. —

Palmyra Classical and Union School—Principal J. Dunlap.

Peekskill Military Academy—Principal Albert Wells.

Pike Seminary—Principal G. C. Waterman.

Pleasant Valley Institute—Principal J. P. Lansing.

Rome Academy—Principal E. O. Hovey.

State Street High School, Albany—Principal Levi Cass.

Troy High School—Superintendent E. Danforth.

Union Academy of Belleville—Trustee C. Littlefield.

Union Village Academy—Principal E. H. Gibson.

Warsaw Union School—Principal C. H. Dann.

Watertown High School—Trustee James A. Bell.

Yates Polytechnic Institute—Late Principal Wm. Velaskow.

Honorary Members.

Rev. James McCosh, LL. D., Queen's College, Belfast, Ireland;
Rev. Mark Hopkins, LL.D., Williams College, Mass.

Reporters.

New York Tribune—W. H. Belden. New York World—Wm.
H. Bogart.

ON THE STUDIES PROPER TO BE PURSUED PREPARATORY TO ADMISSION TO COLLEGE.

BY FREDERICK A. P. BARNARD, LL. D.,

President of Columbia College.

Whenever it happens that any subject interesting to man becomes matter of protracted controversy, the zeal of opposing parties often carries them so far, as to make both of them equally intolerant of one who is not wholly with themselves, though at the same time he may be by no means with their adversaries. The task, therefore, of one who undertakes to show—what is usually true—that to a certain extent both parties are in the right, while neither is wholly so, is by no means an easy one. He is very likely to incur the disapproval of both, while he is not sure to conciliate the favor of either.

This consideration embarrasses me in the attempt I am about to make, to exhibit certain views connected with our system of higher education, founded upon convictions which have long been gradually growing upon me, but which I apprehend are not likely to be in full accordance with those of any considerable number of the experienced educators whom I have the pleasure of addressing.

In the discussions which have taken place in our time with respect to the merits of our system of collegiate education, the field has been occupied almost exclusively by two parties holding opinions widely discordant; so much so indeed as hardly to admit of any description of compromise. One of these parties, which may properly be styled the conservative, has made classical learning its watchword, and has steadily resisted the encroachments upon our time honored course, of modern science in all its branches. It has regarded every slight recognition which has been made of the value of this knowledge, as an unwise concession to popular clamor and a wrong done to the cause of education; and has maintained, or if it spoke its full thought would doubtless maintain, that the collegiate education of this country was vastly better at the close of the eighteenth century than it is now, in the middle of the nineteenth. The other, which styles itself the progressive, and is styled by its opponents the destructive party, denounces with contempt a system which rests, as it asserts, upon

a literature and a history which have long since ceased to have any living interest for the human race ; and occupies itself with the painful study of languages which exist only as literary curiosities and which will never more be either spoken or written ; while shutting its eyes to the condition of the living world of to-day, treats as unworthy of notice the great discoveries which in recent times have revolutionized the aspect of society and transformed the whole surface of the planet, is indifferent to the great lessons of political and social science to be drawn from the fruitful pages of modern history, and finally flings its *élèves* into the midst of the world's conflicts, as little prepared to deal with the real problems of life as if they had dropped from the moon.

It is hardly necessary to say that the actual state of our educational system satisfies neither of these extreme classes. The former are chagrined that so much has been already lost ; the latter are discontented that so little has yet been won. But there has gradually been growing up a third class, limited as yet perhaps in numbers, who, without falling in the least behind the first of those just described in their esteem for the ancient learning, have perceived that the time has come when that learning must abandon its claims to an absolute monopoly of the educational field, and are now earnestly inquiring whereabouts in the educational course and to what extent it may profitably be superseded. It is to this class, small perhaps as yet in numbers and inconsiderable in weight of influence, to which I avow myself to belong. Hitherto the attention of this class has been principally occupied with the teaching of colleges—taking it apparently for granted that the course of preparatory study, which is substantially the same everywhere, is susceptible of no material improvement and needs no essential modification. But it is precisely at this point, as it seems to me, that modification is most necessary ; and it is here that I desire to suggest that a suitable modification may be at once the means of accomplishing more efficiently the general ends of education (which is of course the matter to be first looked after) and of rendering at the same time instruction in classical learning more productive than it is at present of tangible results.

More productive, I say, of tangible results. For what are, in fact, the results which we do actually reach in the teaching of the classics at this time ? Are they in truth anything like what we claim for them ? We hear, for instance, a great deal said of the

intellectual treasures locked up in the languages of Greece and Rome, which it is asserted that our system of education throws open to the student freely to enjoy. And yet we know that practically this claim is without foundation. It will not, I presume, be affirmed of the graduates of American colleges generally, that they become familiar with any portions of the literature of Rome and Greece, which do not form part of their compulsory reading. It will hardly be affirmed that one in ten of them does so. And why not? The reason is two-fold. First, there is hardly one in ten, in whose mind the classics ever cease to be associated with notions of painful labor. Reading is not therefore pursued beyond the limit of what is required, because it is not agreeable. But secondly and chiefly, there is hardly one in ten whose knowledge of the Latin or the Greek is ever sufficiently familiar to give him the command of the ancient literature which it is asserted for him that he enjoys. I suppose that to read with any satisfaction any work in any language, we should be able to give our attention to the *ideas* that it conveys, without being embarrassed or confused by want of familiarity with the machinery through which they are imparted. It will not be for mere pleasure that we shall pursue our task, if every sentence brings us a new necessity to turn over our lexicons, or to reason out a probable meaning by the application of the laws of syntax. And yet, if there are any of our graduates who are able, without such embarrassments, to read a classical author, never attempted before, the number must be very few. If there are any who can read even such books of Latin or Greek as they have read before, with anything like the fluency with which they read their mother tongue, the number cannot be large; and if there are any who can read with similar facility, classic works which they take up for the first time, it is so small that I have never seen one.

It appears to me then, that the results actually attained under our present system of instruction, are neither very flattering nor very encouraging. We should certainly not have been so content with them as we seem, if we had not all along kept up before us the fiction that they are not what they are, but what they ought to be. For a period varying from seven to ten years, (four years in college and from three to six in preparation), we keep young men under a course of instruction in Latin and Greek; and, at the end of that time, they are unable, in any proper sense, to

read either the one or the other. Can a person be said to know — a language which he cannot read? And is it a result worth the time and labor expended upon it to attain such a doubtful acquaintance with a language or anything else, as that which the majority of our graduates carry away with them of these, at the close of their educational career? Might not the same amount of time and labor differently employed have produced at last something having a value at least appreciable? And is not the immense disproportion between labor expended and results obtained itself, the best evidence that this labor has not been expended most wisely for the accomplishment of its own avowed end? For surely there cannot be any language, dead or living, in the known world, which any intelligent person ought not to be able to acquire, so as at least to read it, in a course of ten years study.*

I know that we are continually informed, when we complain of the meagerness of the actual results reached in the classical teaching of our colleges, that it is not after all so much on account of the knowledge acquired that these studies are useful—it is because of the admirable intellectual discipline which they furnish, and which it is claimed for them that they only can furnish so well. This question we will waive for the moment; but in the meantime we may take occasion to note that the educationist who falls back upon this ground, admits in so doing, that the other is untenable, and that the value of these languages which has been so much insisted on, in opening up to the student all the choicest literary treasures of the world of antiquity, is for the majority of our graduates practically zero. And the admission may as well be made, though in making it we shall reduce to the form of empty pretense, and rate as no better than so much idle wind, a vast proportion of what has been written in eulogy of the educational uses of the classics. We may as well admit it, I say, because it is true; and until we recognize the truth in regard to the condition of our educational instrumentalities or methods, we can never proceed

*It need hardly be said that there is no intention in these remarks, to question the fact of the existence among us of accomplished and thorough classical scholars. That we have such, and not a few of them, I am proud to believe. But how many of them became so in school or in college? That is the question immediately before us. Our scholars, as a rule, are self made. Their scholarship is the growth of their maturer life. The observations of the text are to be understood of American students at their graduation as Bachelors of Arts—not later.

Intelligently to make them better. Nor will it render the truth I insist on any the less positive, or the admission any the less necessary, that there may be here and there exceptions to the general rule, that now and then there may be found a student whose eight or ten years study of the ancient languages may have really enabled him to read them. No one who claims this can claim that such cases are anything but exceptions. Even in the British Universities, where the preference given to classical study is greatly more decided than with us, and where its prosecution is stimulated by the promise of the most brilliant reward, even there such cases, though naturally more numerous than here, are only exceptional still. In fact their system would almost seem to have been expressly made for the production of these exceptions, and nothing else, without the slightest thought of or regard for the greatest good of the greatest number; for certainly it could not have accomplished the thing better, if it had been really devised with that deliberate intent. No system of performing the work of education, or for performing any other work, can be called a good system, which fails with the great majority and succeeds only with the few.

But then, if the argument so often used in defense of our system, derived from the great value of the classical knowledge it is presumed to impart, be fallacious, is not at least that which rests upon the disciplinary efficacy of classical study more substantial? Upon this point, again, there is some reason to believe that our educationists accept too readily what might be for what is. If mental discipline consists in invigorating the mental faculties by wholesome exercise, and in training them to habits of method in exercise, it is indeed certain that the study of language, undertaken at the suitable stage in the process of culture, must prove a most efficacious instrumentality—perhaps the most efficacious of all—for accomplishing this object. But to place before the immature mind a subject which might possibly later call into exercise certain of its powers, say for instance comparison, judgment, reasoning, is not by any means to insure that, under the actual circumstances, it will do so. It may hardly awaken an active faculty at all, and may remain merely matter of consciousness and memory. And especially is it probable that in early life the higher faculties, the reflective and reasoning powers, will fail to respond to the provocatives addressed to them, when those

provocatives consist of abstractions which are not themselves conceived without effort.

The first step, for instance, in the process of reasoning, is comparison. The easiest efforts of comparison are made when the objects are objects of simple perception; and if nature dictates anything on the subject of education too plainly to admit of mistake, it is that children should first be taught to compare by the help of visible things. But if this plain dictate of nature is disregarded, and we present to immature minds, as subjects of thought, definitions (for instance) of the parts of speech, or the distinctions between the dative and ablative case, the probability is that no comparison or discrimination will be exercised at all, and that the only faculty which will come into play will be the memory. I say the probability is, but I might better say the certainty; and if personal experience is worth anything in the case, I may add that in one instance, at least, this certainty has been to me matter of knowledge.

Valuable then as is the study of language for its educational uses, it does not follow that it is so for the earliest stages of education. Still less, at that early period, will that language be found useful, of which the structure is the most complicated, the inflections the most numerous, the syntax the most artificial, and the order of words and clauses in a sentence the most widely contrasted with that which prevails in the learner's own vernacular. And yet such a language possesses in the highest degree the properties which make of language a useful educational instrumentality, provided the proper place be assigned to it in the educational course.

There is a professor of physical training in New York who promises a wonderful development of the muscles of the arms and chest, to such as choose to practice under his direction for a few months in wielding certain ponderous clubs—thirty pounds, more or less, I believe, in weight. He can point to some striking living examples of the success which has attended his method; but I have never heard that he had placed his clubs in the hands of boys of ten years old. And so, when we impose on the intellects of boys at the same tender age, a burthen like that of the grammar of the Latin or the Greek language, we overtask them as much as we should overtask their bodily strength by requiring them to go through a gymnastic exercise with a club of thirty pounds

weight. They can lift the burthen no more in the one case than in the other. They do not lift it, though we may persuade ourselves that they do, because we tie them to it and leave them there. And by this I mean to say that the study of Latin and Greek, between the ages of eight and twelve (I have heard of cases in which the study began at six), does not really serve the educational purpose that it is supposed to do; does not really occupy the reflective and reasoning powers of the mind, but exercises almost exclusively the memory. But then, if it does not do this, it does something worse. It blinds us to the fact that the educational process is not going on at all, at the very most important and critical time in the youthful learner's life. It prevents us from perceiving that the mind which we are endeavoring to train, refusing a task to which it is unequal, remains inactive, except in the very humblest of its faculties. It conceals from us the unhappy truth that the perceptive powers remain dormant or sluggish; that the powers of comparison, analysis, judgment and reasoning, are never called into action; and that the period of life, when habits of careful observation are most easily formed, when in fact they must be formed, or never formed at all, is passing away unimproved.

To me, therefore, it seems to be an error of very serious gravity to suppose that the study of the ancient languages at a very early period of life is a means of valuable and wholesome mental discipline. That study seems to me rather, at that time, to act as a sedative, repressing the activity of the higher mental powers, than as a stimulant awakening them to exertion. And no stronger corroboration of the justice of this view could be presented than is to be found in the very moderate amount of attainment which appears in the end to be acquired, as the result of all this labor. The object of education, considered as a formative process, is not indeed directly the increase of knowledge. It is to form and not to inform the mind. But there is no process of formation which does not imply information. There is no species of mental exercise in which the understanding is not employed in the acquisition of new truths, or in forming new combinations of familiar truths, in such a manner as to enlarge the scope of our ideas. And in so far as the processes we call educational fail to increase knowledge, although not planned with that express intent, in precisely so far they fail to accomplish their proper end. There is then no impro-

Creator has established to govern the works of his hands, so here we perceive of how inappreciable importance to the welfare of the race is the fact that the predominant characteristic of the infant mind is the instinctive desire to know, and how favorable to the rapid multiplication of ideas is the restless activity of the perceptive powers which accompanies this desire. For the child comes into the world totally ignorant. Even the simplest facts which it concerns his immediate personal safety to know, are to be acquired by him by observation and experience. That fire is hot and that ice is cold, that the moon is more distant than the candle, and that the candle is more agreeable to look at than to touch ; these are rudimentary truths which it is useless to tell him—he must learn them for himself. And in the same way all his elementary knowledge, of whatever description, must be acquired. Much of this is an acquisition earlier than language. It must be so, for language is but symbolic of ideas, and signs will not be used until there is something to be signified. In the earliest period of life, therefore, oral teaching is impossible. No medium exists through which it can be conveyed. The instructions of the parent or the nurse must be limited to the endeavor to enlarge the child's vocabulary by associating in his mind visible objects or recognizable expressions of emotion in the countenance or gesture, with the sounds by which these are recalled in language. To attempt to expound to him one word by the help of others, is an absurdity never thought of. And even after language has been acquired, sufficient for the ordinary purposes of life, it holds for a long time but a subordinate place as an instrument of instruction. It may be employed with great effect to direct and assist the powers of observation, but if relied on solely as a means of conveying new ideas, the result cannot fail to be unsatisfactory. Objects, facts, phenomena, must themselves be directly presented to the learner, or there will be no substantial growth in knowledge. Seeing thus the absolute dependency of the child upon his own unaided perceptive powers for all his earliest knowledge, and seeing to how very great a degree he continues long to be dependent upon the exercise of the same powers for his subsequent advancement, we easily recognize the admirable wisdom of that provision of the Creator by which these powers, first of all and in the very dawn of life, spontaneously awaken, and manifest afterwards through

all the earlier years of existence, an activity which never tires and which will not be repressed.

Now, I hold it to be the first principle of a sound educational philosophy, that the powers of the mind should be subjected to culture in the most natural order; and what I understand by natural order, is the order in which the powers unfold themselves when they are subjected to no artificial control at all. If this is not the test of what is natural, then we have no test. And I suppose that the reason why we should follow nature, is because nature will thus most willingly follow us. The tasks we impose will be pleasing, because they will be adapted to the strength. The learner will easily submit himself to our guidance, because we take him in the direction in which he is already inclined to go. He will understand what we require of him, and he will be encouraged because he understands.

I do not mean to assert that any judicious course of instruction can be devised which shall present nothing but a series of unmingled delights. I am not of the visionary class who believe that continuous mental effort will ever, under any system, be attended, for the majority of individuals, with the same exhilaration and eagerness of spirit with which the same individuals are found to pursue the athletic sports by which their physical powers may be developed. They who, like Herbert Spencer, take such a ground as this, only injure the cause they would befriend, and weaken the force of their otherwise unanswerable arguments. The effort which is useful, whether it be physical or mental, must always partake of the character of labor, and labor brings with it sometimes weariness and pain. But what I do say is, that the labor need not be made a repulsive labor, as it always must be when it brings with it no recognizable, or at least no adequate profit; but may be made so richly productive as actually to become positively attractive.

Now, in what I have just said, I believe there is nothing which is not, in the abstract, perfectly orthodox—nothing which will not meet the approval of every educationist who hears me. I wish to inquire, therefore, to what extent it is practically true, that in our established system of liberal culture, we conform to the order which nature points out to us? Is it true that we make the development and training of the perceptive faculties the first object of our attention? Is it, as it ought to be, our first great

aim to improve the powers of observation, of analysis, of induction, of classification? Are all the studies which we prescribe to boys, as preparatory to their introduction to the abstruser subjects of grammar, and logic, and ethics, and rhetoric, and metaphysics, directed to this end? Is there even a single one of them that is? We know that it is not so. Beyond those most elementary branches of knowledge which are indispensable as furnishing the implements by which all other knowledge is to be acquired—beyond orthography and reading and writing, the simplest rules of arithmetic, and perhaps some imperfect outlines of geography—to the great majority of the youth of this country destined for college, nothing at all is taught of any description, before they are required to devote themselves exclusively to the study of the most difficult languages ever spoken by man, and this by the most difficult of processes—the purely synthetic. They follow up this species of study for several years. Few follow it cheerfully, for few follow it intelligently. Their progress is slow. The average attainment at the end of three, four or more years is far from being what it should be—far from what it might be could they have entered upon it with a proper preliminary training. Yet we do not appreciate the insignificance of the result, because the system itself has created a mean standard, according to which our expectations are adjusted.

They are then advanced to the college. The same subjects occupy them here as before, with the addition mainly of mathematics, logic and rhetoric, for two years longer; and then finally, as they approach the close of their educational career, they are for the first time introduced to the sciences of observation and experiment. That is to say, we have inverted the natural order just as completely as possible, placing those subjects which address themselves to the faculties earliest awake, at the very conclusion of the course. And this inversion of the order of nature carries with it the unfortunate consequence that no satisfactory knowledge is acquired at last, either of the sciences or of the languages. A large portion of my own life has been devoted to the teaching of physics. During all this time it has been manifest to me that my classes have come to this part of their course totally unpracticed how to observe. And it has seemed to me that their perceptive faculties have been actually dwarfed by the *forced inaction* to which they have been constrained during the

period most favorable to their cultivation. Thus it has happened that the brief time which can only be given to these subjects in the college course has been exhausted in the attempt to convey such elementary notions as should have been familiar long before. And the same observation has been made to me by other gentlemen who are among the most skilled instructors in science that I have ever known. If, then, I am asked if I would displace these subjects from the position they occupy in the course of collegiate instruction, I would answer, by no means. What I would desire would be to secure such an early culture, and such an acquaintance with the elements of science, that it might be permitted us to give, at this more advanced period, such larger views and such profounder applications of the principles of these sciences, that the student might feel, in the end, that he had acquired some mastery over them, and might be qualified to prosecute inquiry independently and profitably after he had mastered them.

Probably the faults of our present system of liberal education result to a great degree from the fact that our young men are in too great haste to be educated. It does not seem to me that the system can be radically reformed until our colleges shall decline to receive students below the age of seventeen or eighteen years. Some of them, perhaps a majority, have placed their minimum age at fourteen. Some of them have no provision of law upon the subject at all; but all receive candidates who give evidence of having read a certain limited amount of Latin and Greek. The other qualifications required are exceedingly moderate and are not very severely insisted on. Nor, though there are some who enter later in life, is it possible to secure to such the advantage this fact should bring with it. The course of study prescribed must be the same for all, and must not be beyond the capacity of the youngest. In the British universities, the average age of students at admission is, according to the reports of the royal commissioners, about eighteen years and a half. Were it the same with us, or were it a year less, there would be ample time in the earlier years for such a course of preliminary training as to insure, what we by no means now insure, a thorough education. But even without any such modification of our exactions as to age, there is still room for a sensible improvement of the existing state of things. And having said this, I shall probably

be expected to state specifically what are the improvements which I consider practicable.

First, then, I would say that I believe that boys should not, as a rule, be required to take up the study of Latin before the age of fourteen or fifteen years. The earlier years may be much more profitably employed in other things; and if so employed, the study of the ancient languages may afterward be pursued much more rapidly and much more intelligently. It is a fact which has been frequently observed, which every teacher has probably observed for himself, that youths who have even not had the advantage of early systematic training, but possess only the greater maturity of the faculties which comes with advancing years, and who, at a period much later than the average, have resolved to fit themselves for admission to college, have been able to accomplish all that is required in a singularly short space of time, often within the compass of a single year. And such students, when of ordinary native ability, have usually approved themselves among the most thorough linguists of the classes to which they belonged. There is no doubt that two years is as good as two dozen for the acquisition of all that our colleges require of preparation in the classics, provided violence be not done to nature by forcing the study upon minds unprepared to receive it.

During the earlier period, now occupied with weary, and to a great degree profitless, labor over uncongenial studies, I would introduce, first, the sciences of classification, embraced under the general name of Natural History—as botany, zoölogy, mineralogy. No subjects are better suited than these to gratify the eager curiosity of the growing mind; to satisfy its cravings after positive knowledge; to keep alive the activity of the perceptive powers; to illustrate the beauty and value of method, and to lead to the formation of methodical habits of thought. That these subjects will interest children of very early years, and that such children will require no painful constraint to secure their attention to them, I have myself seen experimentally verified; and the testimony of Professor Hooker, before the Royal Commissioners appointed to inquire into the condition of the public schools of England, in regard to the success of his distinguished relative, Prof. Henslow, in giving instruction in the same subjects in one of the humblest schools of England, is conclusive to the same effect. The lessons of Professor Henslow were given to children

Between the ages of eight and fifteen. The attendance was altogether voluntary. The children became deeply interested in the subject of botany, learned to analyze and classify plants, to distinguish the relations of the parts of plants to each other, and of one plant to another. The result was a very obvious improvement in the powers of observation and of reasoning, and an increase of general intelligence. These effects were so sensibly manifest, that some of the inspectors of the schools remarked that these children were decidedly more intelligent than those of other parishes, and attributed the fact to the training which their observant and reasoning powers had received from this instruction.

Along with these sciences, I would teach those which depend on observation and experiment, embracing chemistry and the various branches of physics. As in natural history we have classification of individuals referred to form, so here we have classification of facts and phenomena referred to law. These sciences present the happiest examples of reasoning in both the inductive and deductive forms. They lead to the formation of habits of arranging premises and deducing conclusions which accord most with the daily exigencies of human life, and thus promote that soundness of judgment which is among the most striking characteristics of practical men. Of course, it is not to be expected or desired that, in the early period of education, these sciences should be pursued into their abstruser developments. The deductive part of physics involves, in many portions, the application of the higher mathematics, and opens up branches of inquiry which must be left to be supplied at a more advanced period; but that which is simply inductive addresses itself to the senses, and not only may be easily understood, but never fails to prove intensely interesting even to very young learners.

So much as is here suggested, is actually required as a qualification for admission to King's College, London, or for matriculation in the London University. The eminent physiologist, Dr. Carpenter, who is one of the examiners for the London University, in his evidence before the commission already referred to, speaks of the requisition as most important and useful. And the opinions expressed by him are supported by the unanimous voice of all the other witnesses of the same class who speak to the point, embracing some of the most distinguished physicists of England, and presenting a weight of authority entitled to the highest respect.

Among these we find the names of Lyell, Hooker, Faraday, Owe ~~men~~,
 Airy and Ackland. We have these names, because these gent ~~le~~.
 men were summoned before the commission. But it is assumi ~~g~~
 very little to say that we might have had along with them the ~~se~~
 of every eminent physicist in England, had they all been in li ~~Ke~~
 manner called upon for their evidence.

The adaptedness of this class of subjects to the mental wants of
 boys in the earlier period of their education, and its fitness there-
 fore, to fasten their attention and keep alive their mental activity, is
 manifested in the earnest interest they display in any description
 of physical or chemical experiments, and in the eagerness with
 which they will endeavor to imitate such and contrive new ones.
 It is manifest in the curiosity they exhibit to witness the action
 and to understand the rationale of every new machine which falls
 in their way, and in the efforts to invent or to construct for them-
 selves, which form a part of the early history of almost every
 youth. It is interesting to any one to be introduced at any time
 of life into a great cotton mill or foundry, or manufactory of any
 description which he has never seen before; but to a young lad,
 whose observant powers are in the morning of their development,
 and who possesses the lively impressibility belonging to that early
 age, such a visit is a source of delight beyond all measure, and
 it is often found almost impossible to tear him away from objects
 which so fill him with admiration and gratify his desire to know.

If it were proper here to refer to matters of personal history,
 in illustration of what I have asserted of the fitness of the sciences
 of nature to occupy the place of precedence in an educational
 system founded upon that sound philosophy which consults first
 the demands of nature, I would say that the point of my own life
 to which, at a distance of more than forty years, I look back
 that in which my education truly began, was that at which, while
 engaged in the irksome study of the dead languages, which for
 the seven years preceding my admission to college, crushed me
 down like an incubus, I had an opportunity to attend a course of
 lectures on chemistry, magnetism and electricity by an itinerant
 lecturer. It seemed to me that a new world had suddenly been
 revealed to me. From that time forward I could think of nothing
 else. It was my constant amusement, with such rude materials
 I could gather, to repeat the experiments which I had seen, and
 to endeavor to devise new ones. Cut off from books of my own

On those subjects, I improved my time during the holidays which permitted me to visit home, in devouring the text books of a sister, who being superior to me in age, was pursuing in her own school, subjects which, according to the received theory, are more advanced than those then allowed to me—that is to say, the dead languages. In assuming therefore, that those subjects are the subjects best suited to early mental culture, I do not merely put forth opinions founded on considerations *a priori*, I speak with the conviction which results from actual experience.

But these subjects are recommended not only on educational grounds, but because they embody in themselves a vast amount of substantial knowledge, such as cannot fail to be of the highest practical usefulness in life. They relate to the real and material world by which man is surrounded, and in the midst of which he lives. Whatever may be the value of the study of the classics in a subjective point of view, nothing could possibly more thoroughly unfit a man for any immediate usefulness in this matter of fact world, or make him more completely a stranger in his own home, than the purely classical education which used recently to be given, and which with some slight improvement is believed to be still given, by the Universities of England. This proposition is very happily enforced by a British writer, whose strictures on the system appeared in the London *Times* some twelve or thirteen years ago.

“Common things are quite as much neglected and despised in the education of the rich as in that of the poor. It is wonderful how little a young gentleman may know when he has taken his university degrees, *especially if he has been industrious, and has stuck to his studies*. He may really spend a long time in looking for somebody more ignorant than himself. If he talks with the driver of the stage coach, that lands him at his father's door, he finds he knows nothing of horses. If he falls into conversation with a gardener, he knows nothing of plants or flowers. If he walks into the fields, he does not know the difference between barley, rye and wheat; between rape and turnips; between lucerne and saintfoin; between natural and artificial grass. If he goes into a carpenter's yard, he does not know one wood from another. If he comes across an attorney, he has no idea of the difference between common and statute law, and is wholly in the dark as to those securities of personal and political liberty on which we pride ourselves. If he talks with a county magistrate, he finds his only idea of the office is, that the gentleman is a sort of English sheik, as the mayor of the neighboring borough is a sort of cadi.

Creator has established to govern the works of his hands, so here we perceive of how inappreciable importance to the welfare of the race is the fact that the predominant characteristic of the infant mind is the instinctive desire to know, and how favorable to the rapid multiplication of ideas is the restless activity of the perceptive powers which accompanies this desire. For the child comes into the world totally ignorant. Even the simplest facts which it concerns his immediate personal safety to know, are to be acquired by him by observation and experience. That fire is hot and that ice is cold, that the moon is more distant than the candle, and that the candle is more agreeable to look at than to touch ; these are rudimentary truths which it is useless to tell him—he must learn them for himself. And in the same way all his elementary knowledge, of whatever description, must be acquired. Much of this is an acquisition earlier than language. It must be so, for language is but symbolic of ideas, and signs will not be used until there is something to be signified. In the earliest period of life, therefore, oral teaching is impossible. No medium exists through which it can be conveyed. The instructions of the parent or the nurse must be limited to the endeavor to enlarge the child's vocabulary by associating in his mind visible objects or recognizable expressions of emotion in the countenance or gesture, with the sounds by which these are recalled in language. To attempt to expound to him one word by the help of others, is an absurdity never thought of. And even after language has been acquired, sufficient for the ordinary purposes of life, it holds for a long time but a subordinate place as an instrument of instruction. It may be employed with great effect to direct and assist the powers of observation, but if relied on solely as a means of conveying new ideas, the result cannot fail to be unsatisfactory. Objects, facts, phenomena, must themselves be directly presented to the learner, or there will be no substantial growth in knowledge. Seeing thus the absolute dependency of the child upon his own unaided perceptive powers for all his earliest knowledge, and seeing to how very great a degree he continues long to be dependent upon the exercise of the same powers for his subsequent advancement, we easily recognize the admirable wisdom of that provision of the Creator by which these powers, first of all and in the very dawn of life, spontaneously awaken, and manifest afterwards through

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I do not mean to assert that any judicious course of instruction can be devised which shall present nothing but a series of unmingled delights. I am not of the visionary class who believe that continuous mental effort will ever, under any system, be attended, for the majority of individuals, with the same exhilaration and eagerness of spirit with which the same individuals are found to pursue the athletic sports by which their physical powers may be developed. They who, like Herbert Spencer, take such a ground as this, only injure the cause they would befriend, and weaken the force of their otherwise unanswerable arguments. The effort which is useful, whether it be physical or mental, must always partake of the character of labor, and labor brings with it sometimes weariness and pain. But what I do say is, that the labor need not be made a repulsive labor, as it always must be when it brings with it no recognizable, or at least no adequate profit; but may be made so richly productive as actually to become positively attractive.

Now, in what I have just said, I believe there is nothing which is not, in the abstract, perfectly orthodox—nothing which will not meet the approval of every educationist who hears me. I wish to inquire, therefore, to what extent it is practically true, that in our established system of liberal culture, we conform to the order which nature points out to us? Is it true that we make the development and training of the perceptive faculties the first object of our attention? Is it, as it ought to be, our first great

aim to improve the powers of observation, of analysis, of induction, of classification? Are all the studies which we prescribe to boys, as preparatory to their introduction to the abstruser subjects of grammar, and logic, and ethics, and rhetoric, and metaphysics, directed to this end? Is there even a single one of them that is? We know that it is not so. Beyond those most elementary branches of knowledge which are indispensable as furnishing the implements by which all other knowledge is to be acquired—beyond orthography and reading and writing, the simplest rules of arithmetic, and perhaps some imperfect outlines of geography—to the great majority of the youth of this country destined for college, nothing at all is taught of any description, before they are required to devote themselves exclusively to the study of the most difficult languages ever spoken by man, and this by the most difficult of processes—the purely synthetic. They follow up this species of study for several years. Few follow it cheerfully, for few follow it intelligently. Their progress is slow. The average attainment at the end of three, four or more years is far from being what it should be—far from what it might be could they have entered upon it with a proper preliminary training. Yet we do not appreciate the insignificance of the result, because the system itself has created a mean standard, according to which our expectations are adjusted.

They are then advanced to the college. The same subjects occupy them here as before, with the addition mainly of mathematics, logic and rhetoric, for two years longer; and then finally, as they approach the close of their educational career, they are for the first time introduced to the sciences of observation and experiment. That is to say, we have inverted the natural order just as completely as possible, placing those subjects which address themselves to the faculties earliest awake, at the very conclusion of the course. And this inversion of the order of nature carries with it the unfortunate consequence that no satisfactory knowledge is acquired at last, either of the sciences or of the languages. A large portion of my own life has been devoted to the teaching of physics. During all this time it has been manifest to me that my classes have come to this part of their course totally unpracticed how to observe. And it has seemed to me that their perceptive faculties have been actually dwarfed by the *forced inaction* to which they have been constrained during the

period most favorable to their cultivation. Thus it has happened that the brief time which can only be given to these subjects in the college course has been exhausted in the attempt to convey such elementary notions as should have been familiar long before. And the same observation has been made to me by other gentlemen who are among the most skilled instructors in science that I have ever known. If, then, I am asked if I would displace these subjects from the position they occupy in the course of collegiate instruction, I would answer, by no means. What I would desire would be to secure such an early culture, and such an acquaintance with the elements of science, that it might be permitted us to give, at this more advanced period, such larger views and such profounder applications of the principles of these sciences, that the student might feel, in the end, that he had acquired some mastery over them, and might be qualified to prosecute inquiry independently and profitably after he had mastered them.

Probably the faults of our present system of liberal education result to a great degree from the fact that our young men are in too great haste to be educated. It does not seem to me that the system can be radically reformed until our colleges shall decline to receive students below the age of seventeen or eighteen years. Some of them, perhaps a majority, have placed their minimum age at fourteen. Some of them have no provision of law upon the subject at all; but all receive candidates who give evidence of having read a certain limited amount of Latin and Greek. The other qualifications required are exceedingly moderate and are not very severely insisted on. Nor, though there are some who enter later in life, is it possible to secure to such the advantage this fact should bring with it. The course of study prescribed must be the same for all, and must not be beyond the capacity of the youngest. In the British universities, the average age of students at admission is, according to the reports of the royal commissioners, about eighteen years and a half. Were it the same with us, or were it a year less, there would be ample time in the earlier years for such a course of preliminary training as to insure, what we by no means now insure, a thorough education. But even without any such modification of our exactions as to age, there is still room for a sensible improvement of the existing state of things. And having said this, I shall probably

be expected to state specifically what are the improvements which I consider practicable.

First, then, I would say that I believe that boys should not, as a rule, be required to take up the study of Latin before the age of fourteen or fifteen years. The earlier years may be much more profitably employed in other things; and if so employed, the study of the ancient languages may afterward be pursued much more rapidly and much more intelligently. It is a fact which has been frequently observed, which every teacher has probably observed for himself, that youths who have even not had the advantage of early systematic training, but possess only the greater maturity of the faculties which comes with advancing years, and who, at a period much later than the average, have resolved to fit themselves for admission to college, have been able to accomplish all that is required in a singularly short space of time, often within the compass of a single year. And such students, when of ordinary native ability, have usually approved themselves among the most thorough linguists of the classes to which they belonged. There is no doubt that two years is as good as two dozen for the acquisition of all that our colleges require of preparation in the classics, provided violence be not done to nature by forcing the study upon minds unprepared to receive it.

During the earlier period, now occupied with weary, and to a great degree profitless, labor over uncongenial studies, I would introduce, first, the sciences of classification, embraced under the general name of Natural History—as botany, zoölogy, mineralogy. No subjects are better suited than these to gratify the eager curiosity of the growing mind; to satisfy its cravings after positive knowledge; to keep alive the activity of the perceptive powers; to illustrate the beauty and value of method, and to lead to the formation of methodical habits of thought. That these subjects will interest children of very early years, and that such children will require no painful constraint to secure their attention to them, I have myself seen experimentally verified; and the testimony of Professor Hooker, before the Royal Commissioners appointed to inquire into the condition of the public schools of England, in regard to the success of his distinguished relative, Prof. Henslow, in giving instruction in the same subjects in one of the humblest schools of England, is conclusive to the same effect. The lessons of Professor Henslow were given to children

between the ages of eight and fifteen. The attendance was altogether voluntary. The children became deeply interested in the subject of botany, learned to analyze and classify plants, to distinguish the relations of the parts of plants to each other, and of one plant to another. The result was a very obvious improvement in the powers of observation and of reasoning, and an increase of general intelligence. These effects were so sensibly manifest, that some of the inspectors of the schools remarked that these children were decidedly more intelligent than those of other parishes, and attributed the fact to the training which their observant and reasoning powers had received from this instruction.

Along with these sciences, I would teach those which depend on observation and experiment, embracing chemistry and the various branches of physics. As in natural history we have classification of individuals referred to form, so here we have classification of facts and phenomena referred to law. These sciences present the happiest examples of reasoning in both the inductive and deductive forms. They lead to the formation of habits of arranging premises and deducing conclusions which accord most with the daily exigencies of human life, and thus promote that soundness of judgment which is among the most striking characteristics of practical men. Of course, it is not to be expected or desired that, in the early period of education, these sciences should be pursued into their abstruser developments. The deductive part of physics involves, in many portions, the application of the higher mathematics, and opens up branches of inquiry which must be left to be supplied at a more advanced period; but that which is simply inductive addresses itself to the senses, and not only may be easily understood, but never fails to prove intensely interesting even to very young learners.

So much as is here suggested, is actually required as a qualification for admission to King's College, London, or for matriculation in the London University. The eminent physiologist, Dr. Carpenter, who is one of the examiners for the London University, in his evidence before the commission already referred to, speaks of the requisition as most important and useful. And the opinions expressed by him are supported by the unanimous voice of all the other witnesses of the same class who speak to the point, embracing some of the most distinguished physicists of England, and presenting a weight of authority entitled to the highest respect.

Among these we find the names of Lyell, Hooker, Faraday, Owen, Airy and Ackland. We have these names, because these gentlemen were summoned before the commission. But it is assuming very little to say that we might have had along with them those of every eminent physicist in England, had they all been in like manner called upon for their evidence.

The adaptedness of this class of subjects to the mental wants of boys in the earlier period of their education, and its fitness therefore, to fasten their attention and keep alive their mental activity, is manifested in the earnest interest they display in any description of physical or chemical experiments, and in the eagerness with which they will endeavor to imitate such and contrive new ones. It is manifest in the curiosity they exhibit to witness the action and to understand the rationale of every new machine which falls in their way, and in the efforts to invent or to construct for themselves, which form a part of the early history of almost every youth. It is interesting to any one to be introduced at any time of life into a great cotton mill or foundry, or manufactory of any description which he has never seen before; but to a young lad, whose observant powers are in the morning of their development, and who possesses the lively impressibility belonging to that early age, such a visit is a source of delight beyond all measure, and it is often found almost impossible to tear him away from objects which so fill him with admiration and gratify his desire to know.

- If it were proper here to refer to matters of personal history, in illustration of what I have asserted of the fitness of the sciences of nature to occupy the place of precedence in an educational system founded upon that sound philosophy which consults first the demands of nature, I would say that the point of my own life to which, at a distance of more than forty years, I look back as that in which my education truly began, was that at which, while engaged in the irksome study of the dead languages, which for the seven years preceding my admission to college, crushed me down like an incubus, I had an opportunity to attend a course of lectures on chemistry, magnetism and electricity by an itinerant lecturer. It seemed to me that a new world had suddenly been revealed to me. From that time forward I could think of nothing else. It was my constant amusement, with such rude materials as I could gather, to repeat the experiments which I had seen, and to endeavor to devise new ones. Cut off from books of my own

on those subjects, I improved my time during the holidays which permitted me to visit home, in devouring the text books of a sister, who being superior to me in age, was pursuing in her own school, subjects which, according to the received theory, are more advanced than those then allowed to me—that is to say, the dead languages. In assuming therefore, that those subjects are the subjects best suited to early mental culture, I do not merely put forth opinions founded on considerations *a priori*, I speak with the conviction which results from actual experience.

But these subjects are recommended not only on educational grounds, but because they embody in themselves a vast amount of substantial knowledge, such as cannot fail to be of the highest practical usefulness in life. They relate to the real and material world by which man is surrounded, and in the midst of which he lives. Whatever may be the value of the study of the classics in a subjective point of view, nothing could possibly more thoroughly unfit a man for any immediate usefulness in this matter of fact world, or make him more completely a stranger in his own home, than the purely classical education which used recently to be given, and which with some slight improvement is believed to be still given, by the Universities of England. This proposition is very happily enforced by a British writer, whose strictures on the system appeared in the London *Times* some twelve or thirteen years ago.

“Common things are quite as much neglected and despised in the education of the rich as in that of the poor. It is wonderful how little a young gentleman may know when he has taken his university degrees, *especially if he has been industrious, and has stuck to his studies*. He may really spend a long time in looking for somebody more ignorant than himself. If he talks with the driver of the stage coach, that lands him at his father’s door, he finds he knows nothing of horses. If he falls into conversation with a gardener, he knows nothing of plants or flowers. If he walks into the fields, he does not know the difference between barley, rye and wheat; between rape and turnips; between lucerne and saintfoin; between natural and artificial grass. If he goes into a carpenter’s yard, he does not know one wood from another. If he comes across an attorney, he has no idea of the difference between common and statute law, and is wholly in the dark as to those securities of personal and political liberty on which we pride ourselves. If he talks with a county magistrate, he finds his only idea of the office is, that the gentleman is a sort of English sheik, as the mayor of the neighboring borough is a sort of cadi.

If he strolls into any workshop, or place of manufacture, it is always to find his level, and that a level far below the present companion. If he dines out, and as a youth of proved talents, and perhaps university honors, is expected to be literary, his literature is confined to a few popular novels—the novels of the last century, even of the last generation, history and poetry having been almost studiously omitted in his education. The girl who has never stirred from home, and whose education has been economised, not to say neglected, in order to send her own brother to college, knows vastly more of those things than he does. The same exposure awaits him wherever he goes, and whenever he has the audacity to open his mouth. *At sea he is a landlubber, in the country a cockney, in town a greenhorn, in science an ignoramus, in business a simpleton, in pleasure a milksop*,—everywhere out of his element, everywhere at sea, in the clouds, adrift, or by whatever word utter ignorance and incapacity are to be described. In society and in the work of life, he finds himself beaten by the youth whom at college he despised as frivolous or abhorred as profligate. He is ordained, and takes charge of a parish, only to be laughed at by the farmers, the trades people and even the old women, for he can hardly talk of religion without betraying a want of common sense."

I know that with a pretty large class of educational philosophers, when methods of education are under discussion, the word *usefulness* has long been tabooed. I know that with such, to speak of a subject of study as likely to be productive of direct and practical and tangible benefit to the learner in the real business of life, is to bring that subject immediately under suspicion, if not to insure its summary condemnation without any examination of its claims. I cannot but hold, on the contrary, that if we can find any subject which, while it is capable of affording the most salutary intellectual exercise, is also certain to enrich the student with a store of knowledge of that very kind of which he is going to feel the need every day of his life, then this subject should have a place in our educational schemes in preference to any which can only claim the first of these advantages without possessing the second at all.

The kind of lofty contempt or aversion to subjects recommended for their practical utility, which is manifested by the class of educators to which I have referred, appears to be founded upon an assumption which has been so long taken for granted, that for them it has passed into a kind of axiom, and that is, that a subject of knowledge which is adapted to educational uses cannot be, or at least is extremely unlikely to be, of any other direct use in

the world; and conversely, that a subject which is self-evidently practically useful can by no possibility have any educational use whatever. According to them, therefore, as it has been very well remarked before, nature seems in respect to this particular matter to have deviated from that rule of severe economy which distinguishes her everywhere else, and to have ordained a necessity for two sets of machinery where one might have sufficed—ordained, that is, that the mind shall require one class of studies for subjective culture, and another class for its furniture—one class to make it fit for work, and another class to provide for it material to work upon. The fallacy of this doctrine has been so well exposed by abler hands—notably by Dr. Hodgson, of England, and by Mr. Atkinson in our own country—that I will not dwell upon it here. I mention it only for the purpose of entering my protest against any disparagement of the studies which I would recommend as preparatory to college, to be deduced from the consideration that they have upon them the taint of possible usefulness.

I have dwelt somewhat at length upon the subjects of study which have occupied us thus far, because of their preëminent importance and their adaptation to a special culture now wholly neglected, and not because I consider them, in themselves, sufficient in the business of preparation for college. There is no period in a course of education in which it is not important to vary the labor, and to relieve the tension upon one class of faculties by calling another into action. There are certain subjects which are now professedly required, although seldom made subjects of any searching examination—hardly, perhaps, examined upon at all—but of which, in the language of one of the resolutions of Convocation adopted at the last annual meeting, the knowledge is rather “pre-supposed.” Among these are “arithmetic, English grammar, descriptive geography and the history of the United States.” To pre-suppose a knowledge of these things, without employing pretty thorough measures to ascertain that the presumption is justified, implies a tolerably strong exercise of faith, and requires that, like the marchioness in the curiosity shop, one should “make believe a great deal.” The experience of every college officer will, I think, bear me out in the assertion that, notwithstanding the length of time spent by most lads in preparatory study, there is always a large proportion who struggle to secure admission into college on the very minimum of attainment

allowable; so that, when they know so little of the subjects on which they are sure of being examined, it is not quite safe to "presuppose" that they will know anything at all of those on which they hope to escape examination. These subjects I would still insist on, and would insist also that we should adopt effective means of insuring that they receive proper attention. And to these I would add plane geometry, so much of algebra as includes equations of the second degree, and finally the French and German languages. Time admonishes me not to attempt here the discussion of the propriety of all these suggestions. I will limit myself to assigning briefly my reasons for the last.

And here I would observe that the popular idea which limits the educational growth of the man to the period of scholastic discipline, is one which will not be entertained by any member of this Convocation. What the school and the college accomplish for the individual who enjoys their advantages, is to fit him to take his education into his own hands. No man who remains stationary at the point where the college leaves him can ever be distinguished in any vocation, or prove a successful laborer in any part of the intellectual field. When in the view of the world the education of the youth is completed, we must regard it, in its highest and most appropriate sense, as only just begun. In order, therefore, that it may proceed successfully, the student must be in possession of certain instrumentalities, which he will henceforth find indispensable to every effective step of progress. And among these instrumentalities, none is more essentially important than a knowledge of those languages in which, along with his own, is embodied the richest literature of modern times upon all subjects of interest to man. As the commonest education exacts, as a condition antecedent, the power to read at least one language, so the highest demands a similar power for more than one; and the student whose tastes, or whose ambition, or whose sense of duty impels him to aim unceasingly at progress, should he have neglected the study of the modern languages till the close of his collegiate career, will find himself arrested or seriously embarrassed, at the very outset of his independent labors, by the impossibility of consulting authorities, or of keeping himself advised of the simultaneous labors of others. Neglects, I say, to the close of his collegiate career, for if he neglects these subjects before he becomes a member of college, that is what he is practically pretty sure to

do; since there is no college known to me in which the modern languages form, much more than in name, a part of the regular teaching. It should not be forgotten that the knowledge of French and German which the scholar or the scientific man of this day needs, is not such a knowledge as that which our graduates usually possess of Latin and Greek—a knowledge, that is to say, which does not permit them to read those languages with fluency—a fluency something like that with which they read their mother tongue. It must be a real knowledge, such a knowledge as frees them effectually from slavery to grammars and lexicons. Surely the acquisition of such a knowledge, which to the man who is to be really educated is absolutely a *sine qua non*, may much better be commenced in early life, when the other implements essential to mental progress are acquired, than deferred to the period to which, unfortunately, so many defer it, when it forms an obstruction to mental progress in mid career—an obstruction which must be removed with much annoying and impatient labor before the student is ready to make a single further step of advance.

But it may be inquired, if foreign languages are to be made part of the early discipline, what becomes of the objection to Latin and Greek, as unsuited to the powers of the juvenile learner. The reply is two-fold—first, these languages by no means present the difficulties to the learner which are characteristic of Latin and Greek. They are less complicated in structure, and, at least in the case of the French, far less different in their usages from our own. But secondly and chiefly, the objection to the Latin and Greek is to be found quite as much in the stereotyped modes of presenting them—modes which it is probably vain to expect to alter, and which need not be altered, if we defer the teaching to a period a little later—as to the nature of the languages themselves. The modes of teaching which I believe are universally prevalent, are after the severest fashion synthetic. They are as totally unsuited to the state of mental development of the juvenile learner as they could by any possibility be made. And this fact, apart from the difficulties inherent in the languages themselves, is, in my mind, quite decisive of the question.

The prevalent modes of teaching the modern languages are not synthetic, or are so to a much less degree. Those employed with young learners, ought not to be so, and certainly need not be.

To this it may be added, that if there were no difference be-

tween the two classes of languages in the respects which have just been indicated, and were the modern languages in this part of the course just as objectionable in their subjective relations as the ancient, there is this, at least, to be said in favor of the former, which is not at all true of the others, that they will probably be really mastered before they are done with, and will certainly be of some practical use after they are mastered.

If up to the age of fourteen, fifteen or sixteen years—preferably the last—a lad shall have been subjected to the training indicated in the foregoing remarks, he will then be in condition to take up, profitably, along with the studies above enumerated, the Latin, and somewhat later, the Greek language. I am not quite sure that it might not be well to drop from the preparatory course the Greek altogether, and to leave that study wholly to the college. That is a question at which I will merely hint without discussing it. In such a case, the omission would be with a view to make the preparation in Latin more thorough. And considering the great help which may be derived, in the study of this language, from the knowledge of the languages (especially of the French) already acquired, there can be no doubt that a single additional year of study would result in a more satisfactory preparation for college than is now obtained in three or four or five. Thus there could be secured along with a vast and valuable fund of real knowledge an immense economy of time.

Furthermore, I cannot but be convinced that such a preparatory training would render the *collegiate* course greatly more profitable than it is at present; and still further, that classical scholarship itself, whose peculiar friends and champions may be disposed to see in all that has been said, nothing but a tissue of dangerous heresies, would be improved to that extent that it might become no very uncommon thing among us to find a graduate who should really be able to *read* Latin and Greek.

In conclusion, I have to advert to one serious fact which is always a subject of discouragement to me when I think of the possibility of a reform of the higher education in our country. It is this. There are between two hundred and two hundred and fifty institutions in the United States which are chartered as colleges. Any movement which any one of these, or any limited number of these may make, in the direction of larger exactions as qualifications for admission, is likely to result, not in the hoped

for improvement of the system, but in driving students from their own doors to those of their more accommodating neighbors. The colleges of New York, bound together in a kind of federal league, with the advantage of a common supervisory board, might act unitedly; and if New York were isolated in the world—cut off by an ocean from other states, or severed by difference of language and political institutions from the peoples on its borders—they might act with effect. As we are actually situated, it would be no very difficult thing to improve our system of education at the expense of our existence.

It is unfortunately true of a very large proportion of our young men that they desire not so much an education as the name of being educated. All these, where other things are equal, will naturally prefer those institutions which will furnish them the coveted certificate on the easiest terms. Nothing short of an effort in which all of the leading colleges of the country should act simultaneously and in concert, could probably avail to change materially the system which at present exists. Whether it is owing to the faults of this system, or to some deeper lying cause, it is a fact which can not be controverted that our colleges are gradually losing ground in the public estimation. Though the creation of new ones is an every day occurrence, the ratio to the entire population of the aggregate annual number of their graduates is steadily, though slowly, diminishing. In England, also, a similar change seems to be simultaneously going on. Conclusive proof of this is presented by Mr. Atkinson, in his able address before the Massachusetts Institute of Technology; and among his citations is the remarkable testimony of Lord Lyndhurst, who expressed in Parliament, in 1855, the opinion that the universities had evidently a far weaker hold upon public feeling of the country than they had possessed at no very distant previous period. "When I first entered public life," said he, "I found in the other House of Parliament that a majority of the members of that assembly had been educated at one or the other of the universities. Now, however, as I understand, not more than one-sixth, or, at most, one-fifth of the representatives of the people have been educated at either of those great institutions."

I cannot but regard these results as owing, in some degree, to the faults of the preparatory system in both countries; faults which the subsequent teaching in the colleges does not and can

not correct, and which entail educational deficiencies—deficiencies of practical knowledge on subjects held in the highest esteem by the public—upon all their graduates.

If we take up the reports of the Regents of the University of this state, we shall see that in every academy under their control, without exception I believe, instruction is given on all those subjects which I have named as proper to be placed upon the list of preparatory studies. These subjects are not taught to those who are in process of preparation for college in those schools. They are undoubtedly taught to others no more advanced in age than they. When the public see these things, how is it possible that they should fail occasionally to draw unfavorable comparisons? How is it possible that they should not sometimes imagine that perhaps the education which a youth may acquire in the academy may better fit him for success in life, than all that can be done for him by a system which carries him professedly a great deal higher, yet lays its first foundation in a manner of which common sense fails to discover the wisdom.

Permit me, finally, to remark that I have not submitted these observations with any expectation that they will affect the action of this Convocation. If the views which I have expressed have any foundation in reason, I am aware that they too widely differ from those which are generally entertained, to justify me in anticipating that they will be immediately approved. If they serve to awaken attention to the subject, and lead to its more deliberate examination, all the end which I have proposed to myself in presenting them will have been answered.

SUGGESTIONS IN REGARD TO TEACHING ADVANCED CLASSES IN CHEMISTRY.

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General chemistry, in common with other branches of the sub-graduate course of instruction, should aim to secure:

- 1st. The permanent acquisition of facts and principles;
- 2d. Thorough discipline of the intellectual powers;
- 3d. The cultivation of the theistic emotions.

The first of these objects is important, because required by the student of chemistry as preparation for the higher courses in the analytical laboratory of the college; and more universally important, because of the inestimable value of this science in the arts of life. The second is absolutely essential, because, in the first place, without it no permanent acquisition of the science is possible; and, in the second place, this study should be allowed to bear an honorable part in perfecting the intellectual power of the young. The third is essential, because I am persuaded that it is the most exalted mission of the natural sciences, to interpret the characters in which are written illustrations and evidences of the power, wisdom and goodness of God.

The design of the following paper is to call attention to the fact that chemistry, as too often presented, is so fragmentary and statistical in its nature, such a mere accumulation of disconnected descriptions and experiments, that it utterly fails to accomplish these objects, and to venture some suggestions as to the means by which it is possible to make this study efficient, both as a mental discipline and as a preparation for more advanced courses.

Owing to the lack of any truly logical arrangement and development of its facts and theories, it cannot be denied by its most partial friends that chemistry has thus far, quite justly, failed to rank among the chief educators in the curriculum. That it may be taught as a science, so logical in its arrangement and development, so severe in its demonstrations, so fascinating and suggestive through the beautiful illustrations of which it is susceptible, that in the pursuit of it there shall be secured a thorough mental discipline, the permanent acquisition of available knowledge, and the

awakening of those emotions which arise from beholding a God in nature, the following suggestions are made:

1st. The treatment of this subject may be made to conform to the requirements of a rigid logical analysis;

2d. Its laws and principles, to a very considerable extent, admit of thorough mathematical development;

3d. An abundance of experimental illustrations may be compelled to subserve the purposes of such a logical and mathematical treatment;

4th. And finally, every student should be held responsible for a thorough reproduction of the instruction he receives.

Consider, then, in the first place the necessity and the advantages of the logical analysis.

We have only to examine the various text-books in chemistry to be convinced that the majority of authors have been so eager in the pursuit of facts, as to forget the importance of a logical development of principles. Definitions follow definitions in a succession governed by no relation between the subjects defined; principle follows principle with no logical derivation from each other; and facts are piled upon facts controlled by no laws of association, other than that of mere position. Why should not chemistry thus presented fail as a mental discipline? It overwhelms the most retentive memory, while it supremely ignores all the other faculties of the mind.

Now, the responsibility of this failure should rest, not upon chemistry as a science, but rather upon the cruel usage to which chemistry has been subjected. There is that in the subject which allows and merits a better treatment. Nature has been built upon a plan. The divine ideas have been embodied according to the laws of a divine logic. The various creations are not integers, isolated from each other, they are bound together by ties of the closest relationship. There is, therefore, a logic in the natural sciences. Subjects, when properly arranged, are found to be intimately related; principles develop other principles, and facts are bound together by the strongest bonds of association. By seeking out this relation, the various definitions, facts, principles and theories are made to take their appropriate places, so that chemistry, like the creation whose laws it investigates, becomes an assemblage of clearly cut and well defined ideas, the related parts of a single comprehensive whole.

The analysis here urged, should begin at the very threshold of the science. How often will the examining committee meet with students who can repeat with remarkable rapidity, and with an excusable air of triumph too, some one among the many popular definitions of the related sciences, natural philosophy, chemical physics and chemistry, but who, when their attention is called to some familiar phenomenon in nature, are at an utter loss to know whether, for its explanation, they must draw upon their knowledge of one or the other of the three! How like the apprentice, who should take his chest of tools and in a parlor study them until he has become so familiar with each that he can describe it minutely, but who would yet have no conception of the specific object each would enable him to accomplish in the workshop! To what profit has he studied?

But the analysis will avoid these vague conceptions by calling the attention of the student back to matter itself, and from the multitude of its qualities proceeding to evoke some single principle which shall define the province of chemistry and distinguish its phenomena from those of all other sciences. Thus it would point out the only two classes of properties which bodies possess, and call them chemical or physical, according as the body may manifest them by, or without, undergoing an essential change in its nature. It would then notice the only two generic actions to which bodies are subject, and call them chemical or mechanical, according as they do, or do not, produce a change in the properties of bodies; and when the two classes of properties, and two kinds of action, have been clearly distinguished, it would assign the discussion of chemical properties and chemical actions to the science of chemistry, that of the physical properties and mechanical actions to the study of natural philosophy; while those phenomena in which properties and actions partaking of the nature of both classes are manifested, would be made to constitute the province of chemical physics.

In this way the phenomena of the inanimate world are completely classified in the student's mind. Ask him, and he can tell you, why the explanation of the rainbow is to be found in natural philosophy; why the combustion of coal is to be explained in chemistry. Direct his thoughts to an unfamiliar phenomenon and he can at once locate its discussion in its proper province. The country which he is to explore is mapped out before him. He

looks over it and around it; he sees its boundaries and enters upon its exploration with a clearly defined purpose.

Upon such a foundation, as the architect may rear a temple, by adding block to block, each carefully cut and fitted to its place, so the instructor may build up the science of chemistry by showing the logical relation of every principle to those which have preceded it, and examining all the related facts as parts of a common subject.

I have met students, advanced in chemistry, whose retentive memories have enabled them to recite the definition of chemical affinity, and of a multitude of other terms; to state the laws of chemical combination, and to point out the reactions in various chemical changes, who yet have had but the slightest conception of any relationship between these facts. I have witnessed the mingled emotions of surprise and gratification mantling their faces when I have suggested that the laws they had learned have been established only on purpose to control the action of chemical affinity, and to guide it amid all its gambols among the elements, to produce the multiplicity of chemical reactions. An arrangement of facts, by which they are placed in the mind like variously colored balls upon a carpet, bound not even by the slender thread that holds a string of beads, should be avoided. By the treatment which has been indicated, the definition of chemical affinity, of solution, the nascent state, the laws of combination both by weight and volume, the theory of equivalents, the mathematical relations between constituents and compounds—in brief, nearly all the principles and facts which constitute a chemical philosophy, are bound by the indissoluble bonds which hold together the successive steps of a single argument. The subject no longer rests in the memory only; it is turned over to the judgment and the reason.

It is scarcely necessary to add that until text-books are arranged upon this plan, and while students are required to advance rapidly as they are, the work of making the analysis will devolve upon the teacher. Let him, therefore, preface the study of every subject with a brief and simple lecture, pointing out its relations and mapping out its discussion. No matter how much his plan may vary from that of the text-book, the student should be required to follow it. He will be thus taught to read carefully, to weigh accurately, to select important factors and to cast out unimportant items, and to reach, finally, the results which an educated reason

demands. No better discipline than this can be found, and no method of study will enable the mind more completely to possess and assimilate the facts and principles with which it deals.

We pass now from the logical analysis to endorse the use of mathematical formulæ.

By formulæ is not now to be understood the combination of symbols and algebraic signs, so long and universally used simply to represent chemical reactions, but rather the algebraic expressions for chemical principles which lie beneath and determine all chemical changes.

The introduction of mathematical reasoning into the science of chemistry is of a much more recent date than its use in physics, but only because chemistry as a science, when compared with physics, is still in its youth. The principles of natural philosophy once rested upon no severer demonstrations than could be derived from the meaning of words which had accidentally come to express them. Only after the lapse of centuries did the several departments, each, like mechanics, find its Gallileo, who could give to its true ideas such an impetus as to finally establish a science, not less severe in its demonstrations than geometry itself. Chemical physics, too, leaving its era of speculation and primitive mistakes, has appropriated the logic of the mathematics. Indeed, so universally conceded is the value of mathematical demonstration in all departments of physics, that only he will avoid its use who is called upon to instruct the most elementary classes.

But longer and more tedious were the lingerings of chemistry in its speculative epoch. To pass from its early mysticism, up through the various stages of the "four elements," the "three principles," the doctrine of "elective affinities" and "phlogiston," was not accomplished until near the close of the eighteenth century. Previous to that, no mathematical relations could be established, for the simple reason that the principles accepted as the foundation of the science, had really no foundation in nature. When, however, these false notions had been overthrown by the tell-tale balance of Lavoisier, it appeared that nature, in her laboratory, instead of being fantastic and arbitrary, deals only in equivalents and in strictest conformity to the laws of number; and that chemistry adds to its beautiful exhibition of the laws of the physical world, this recommendation of a different character, that it is susceptible of mathematical development. Chemists were

not slow to avail themselves of so powerful a means to advance their favorite science, and from that day the results of experiment have been followed up by mathematical reasoning. But the time has not even yet come, when we may declare that chemists have appropriated the full power of the mathematics. May it not be questioned whether too much reliance has not thus far been placed upon numerical illustrations and arithmetical rules arbitrarily given? Is not algebra a more powerful means of research than arithmetic? It is a crucible wherein relations are reduced so that, from the problems considered, they stand out as elements, distinct and in their true proportions. In the higher branches of mathematics, both pure and mixed, numerical calculations are, for the most part, rejected, because they cannot rise to the requirements of demonstrations. Why not banish equations from chemical physics, if *chemical* investigations must be carried on by the aid of arithmetic only?

More particularly may it be said of formulæ for purposes of instruction, that the relation between constituents and compounds being emphatically a quantitative relation, an application of the mathematics must be the most *natural* method of developing them.

It is claimed, further, that this is the most *thorough* method. To learn a formula is, perhaps, not more meritorious than other acts of memory, but to derive it, demands a thorough and complete understanding of all the various relations which it expresses. If this be true of the pure mathematics, not less is it true of the mixed sciences, and of none can it be more true than of chemistry, whose phenomena, like geometrical diagrams, only present to the eye certain tangible forms to hold the attention while the reason grapples with principles that lie beneath and beyond them. A memoriter recitation of the law of "definite proportions" is by no means difficult, and a student may accomplish it perfectly and yet possess only a vague and dream-like conception of its import; while, to be able to assume correct data, and from it to derive a formula, in which this law shall be a principle embodied, cannot be done without acquiring the most vivid conceptions of the relations which the law expresses.

Not only does the application of formulæ afford the most natural and thorough method of instruction; it possesses the additional *advantage* that it shows clearly the relation between what are

usually dissociated chemical principles, binding them together, and thus tending to abolish the fragmentary nature, so often the characteristic of chemical knowledge.

It was once the writer's fortune to examine a series of printed questions, which had been used in the written examination of an advanced class in general chemistry. These questions were, for the most part, such that, as the study is usually pursued, each would very admirably test the student on a different subject; but strangely enough, one quarter of the whole number of questions on the list would be completely answered by the translation of one very simple formula (see [3]) which embodies all the principles demanded by them.

The derivation of these formulæ will, in some instances, furnish a discipline scarcely inferior to the demonstrations of pure algebra. Following this comes their application to the solution of problems; and if these be selected, so far as possible, from the laboratory results or requirements of a practical chemist, it will be found that the derivation and the application are the complements of each other, arming the student with such knowledge of chemical laws that he will be prepared to cope successfully with the theoretical difficulties met with in the analytical laboratory.

Instead of farther observations in behalf of this system, the following illustrations are presented :

I. *The mathematical relation between constituents and their compounds.*

Let us assume the truth of the Atomic Theory. In the following most full and concise statement of this theory, there are five distinct declarations, viz :

- 1st. Bodies are composed of indivisible and unchangable atoms.
- 2d. Atoms of the same substance have the same weight ; those of different substances may have different weights.
- 3d. Chemical equivalents represent these weights.
- 4th. Compounds are formed by the union of different atoms.
- 5th. The nature of a compound depends upon the kind, number and arrangement of its atoms.

Since, according to this theory, (4th), a compound is formed by the union of different atoms ; and since, by the same theory, (1st) and (2d), these atoms have a definite weight, it follows that the compound must be formed of definite and invariable proportions of its constituents. Let these proportions in one part by

weight of the compound, be represented by x, y, z^* . Then any unit by weight, of the compound must be equal to $x + y + z$. The weight of the several constituents in that unit will therefore be

$$\frac{x}{x+y+z}, \quad \frac{y}{x+y+z}, \quad \frac{z}{x+y+z}, \quad \&c.$$

Let C represent a given weight of the compound.

Let W represent the weight of one constituent.

Since in one unit of the compound there are $\frac{x}{x+y+z}$ parts by weight of one constituent, its weight in C units must be $C \times \frac{x}{x+y+z}$ or, since W represents that weight, we have

$$W = C \times \frac{x}{x+y+z} \quad (1.)$$

Application.—It will be observed that, in this formula, four distinct quantities are contained, viz:

The weight of the compound	C ,
The weight of one of its constituents	W ,
The combining proportion of the constituent	x ,
The equivalent of the compound	$x+y+z$.

Any three of these being given, the fourth may be found by substitution in the formula; hence four general problems may arise, viz:

1st. *To find the weight of a constituent in a given weight of a compound, knowing the equivalent of the compound, and the combining proportion of the constituent.*

Illustration.—In the preparation of nitric acid, how much can be obtained from ten pounds of nitrate of potash?

Potassium = 39. Oxygen = 8. Nitrogen = 14.

2d. *To find the equivalent of a compound, having the weight of one constituent in a given weight of the compound, and the equivalent of that constituent.*

Ill.—75 grs. of the iodide of ethyl have been shown, by analysis, to contain 61.06 grs. of iodine; the equivalent of iodine is 127, what is the equivalent of the iodide of ethyl?

3d. *To find the combining proportion† of a constituent, having*

*These values are determined in a problem, by multiplying the equivalent of the constituent by the number of its equivalents in the compound.

†The equivalent, if a proto-compound of the constituent is being examined.

the weight of the constituent in a known weight of the compound, and the equivalent of the compound.

III.—The equivalent of the chloride of silver is 144. An analysis of 84 grs. of it has given 21 grs. of chlorine; what is the equivalent of chlorine?

4th. To find the weight of a compound, which can be produced from a given weight of one constituent, knowing its equivalent and the equivalent of the compound.

III.—How many pounds of crystalized sulphate of copper, ($\text{Cu O SO}^3 + 5 \text{ H O}$) can be made from 100 lbs of copper?

$$\begin{array}{r|l} \text{H} = 1 & \text{S} = 16 \\ \text{O} = 8 & \text{Cu} = 31.7 \end{array}$$

Thus, though an arithmetical rule must view a subject only from a single stand-point, and is restricted, in its application, to questions of a particular cast, the formula discovers all the relations of the data considered, and provides obvious solutions for a great variety of problems.

II. The relation between the weight and volume of gaseous constituents.

Let W be determined by (1).

Let g represent the specific gravity of the gas.

Let t represent the difference between 32°F. and the given temp.

Let V represent the volume of the gas at that temperature.

The weight of one cubic inch of air at 32°F. and at the standard pressure is .325 gr.: the weight of one cubic inch of the gas must therefore be, under the same conditions, equal to $.325 \text{ gr} \times g$.

Now, since W represents the total weight of the gas, the number of cubic inches at 32°F. will be equal to $\frac{W}{.325g}$. But to correct the volume for temperature, we have in chemical physics

the formula $V = V'(1 + \frac{t}{490})$, in which V' represents the volume at 32°F. For V' , substitute its value, and we get the desired formula:

$$V = \frac{W}{.325g} (1 + \frac{t}{490}). \quad (2)$$

It will be noticed, that in this formula, there are four variable quantities, any three of which being known, the fourth may be found; hence that the four following general problems may

- 1st. To find the volume of a gas;
- 2d. To find the weight of a gas;
- 3d. To find the specific gravity of a gas;
- 4th. To find the temperature of a gas.

Illustrations.—How much oxygen at 62°F. can be obtained from 75 grs. of chlorate of potash, (K O Cl O₅)?

$$\begin{array}{r|l} \text{K} = 39 & \text{Cl} = 36. \\ \text{O} = 8 & \text{Sp. gr. of O} = 1.108. \end{array}$$

2d. At 75°F, what will 500 cubic inches of chlorine weigh, its sp. gr. being 2.5?

3d. If 500 cubic inches of carbonic acid gas at 65°F, weigh 231.15 grs., what is its sp. gr.?

4th. At what temperature will 572 cubic inches of nitrogen, its sp. gr. being .971, weigh 157.14 grs.?

III. *The relation between atomic weight, atomic volume, and specific gravity.**

Let S represent specific gravity.

Let W represent atomic weight.

Let V represent atomic volume.

Let b represent the sp. gr. of oxygen.

Let a represent the equivalent of oxygen.

Since specific gravity is the relative weights of equal volumes, it follows, that if two bodies have equal atomic volumes, the atomic weights would likewise be their specific gravities, provided a single standard be employed; but since different standards are employed, the atomic weights, instead of being identical with specific gravities, will but have the same ratio; hence

$$a : W :: b : S$$

$$S = \frac{b \times W}{a}$$

If the atomic volumes be unequal, let that of the body under consideration be V. Then the second member of the equation will be the weight of V volumes; and to make it represent the specific gravity, or weight of one volume, it must be divided by V; hence

$$S = \frac{b \times W}{a \times V} \quad (3)$$

*The familiar formula, sp. gr. = $\frac{A^t W^t}{A^t V}$, supposes only one standard to be employed.

Something more is, therefore, needed for the solution of numerical problems, where as in this country generally, hydrogen is the standard only for atomic weight, while oxygen is taken as the standard of atomic volume, and air for specific gravity.

Any two of the three variables in this equation being given, the third may be found.

1st. Of carbonic acid, sp. gr. is required.

Atomic weight = 22 : atomic volume 2.

2d. Of olefiant gas, sp. gr. = .981, atomic volume 4: what is its atomic weight?

3d. Of H Cl. the atomic volume is required: sp. gr. = 1.24; equivalent = 37.

IV. Of the specific gravities and atomic volumes of a compound and its constituents.

Let S represent specific gravity of a compound.

Let V represent atomic volume of a compound.

Let s, s', s'' , represent specific gravity of its constituents, a, b, c .

Let v, v', v'' , represent the proportions by volume in which they combine.

Now, since the weight of one volume of a is represented by s , and the number of volumes by v , $s \times v$ is equal to the weight of a in the compound; likewise $s' \times v'$ is equal to the weight of b in the compound, and $s'' \times v''$ is equal to the weight of c in the compound; hence $s v + s' v' + \&c.$, is equal to the weight of V volumes of compound. The weight of one volume, or the specific gravity, will be this total weight divided by V; hence,

$$S = \frac{s v + s' v' + \&c.}{V} \quad (4)$$

Four general problems may be solved by the application of this formula.

1st. To find the specific gravity of a compound.

2d. To find the atomic volume of a compound.

3d. To find the specific gravity of a constituent.

4th. To find the atomic volume of a constituent.

Of alcohol vapor, the specific gravity is required from the following data: atomic volume of alcohol = 2.

Composed of carbon, 4 volumes, specific gravity = .418

hydrogen, 6 volumes, spec. gravity = .0692

oxygen, 1 volume, specific gravity = 1.108

2. If the formula of oil of turpentine be $C_{20}H_{16}$, and its specific gravity = 4.69, what is its atomic volume?

Atomic volume C = 2. Specific gravity = .418.

Atomic volume H = 2. Specific gravity = .0692

3. The specific gravity of HI = 4.387; its atomic volume, 4.

It is an advantage possessed by chemistry, even above other branches of natural science, that however intricate its reaction, subtle its principles, unyielding its laws, and severe its demonstrations, yet they may be viewed in the beautiful light of experiment. But a caution should be here observed, for is not chemistry sometimes so presented that it would almost appear as though the production of striking experimental results is the ultimate end for which it is taught? He, at least, who once defined chemistry to be "the art of making bright lights and big noises," must have been trained in such a system. A course of popular lectures outside the school is commendable; nor is reference here made to the system of teaching by lectures, except so far as the student is not held responsible for a thorough reproduction of the instruction he receives. But a solemn protest is here entered against the system, now and then practiced, even in the instruction of advanced classes, which, under the pretext of interesting the student, at once deprives him of the discipline to which he is entitled, and reduces chemistry to the level of a mere amusement.

The end sought is discipline, to be attained through the acquisition of available knowledge. If so, then the apparatus should be used, not so much to gratify the pride of a skillful manipulator, nor simply to furnish delightful vision to a class. Both these objects, so far as worthy, may be attained by making a wealth of experiment completely subserve the demands of the logic and the mathematics of the science.

Our suggestions, so far, have referred entirely to the business of instruction. But instruction simply received, is passive and inert. Principles must be reproduced by the student himself in order to energize his mind for sterner conflict. Hence, how to secure an efficient class drill, becomes a problem of supreme importance to the teacher.

The principles of the science are to be made a permanent acquisition. The fleeting impressions made by the daily advance, are to be held tenaciously until the mind does most thoroughly possess them. If this can be done only by insisting upon a thorough reproduction of principles taught, followed by repeated and searching reviews, it becomes evident, especially when large classes are to be manipulated, that some other agency must be evoked beside the oral recitation, so almost universally relied upon. It is believed that none can be found more efficient than the

written exercise. Indeed, the blackboard is as truly a piece of chemical apparatus as the retort, the furnace or the cistern, and should be deemed as indispensable.

Aside from the fact, itself of vital importance, that a larger number of students may work during the hour, and thus a more thorough and constant review be kept up, the written exercise has other advantages, scarcely shared at all by the oral recitation. That "speaking makes the ready man, while writing makes the accurate man," is an adage as true as it is familiar. In the written exercise there is a constant demand for greater accuracy. The student's thought, caught and fastened by the blackboard, is held up to be viewed by its author, by his classmates and his teacher, to all of whom it is a legitimate subject of criticism. He cannot hide a mistake by any trick of voice or intonation. Errors in chemistry, not only, but mistakes of every kind—a misspelled word, a capital letter out of place, a badly formed sentence, in brief, every error great and small, unmasks its ugly form to mar the beauty of his work. The oral and written exercise supplement each other, securing thoroughness and accuracy, readiness of speech and elegance of expression, and together they furnish a means of constant and thorough review, by which the science is made a permanent acquisition.

SCHOOL DISCIPLINE.

BY ALONZO FLACK, A. M.

Principal of Claverack Academy and Hudson River Institute.

PREVENTATIVES.

Transgression skillfully anticipated is better government than the most judicious punishment.

To *prevent crime* and consequent punishment, is *surely a subject of intense interest* to the members of this Convocation.

While the following remarks *apply* particularly to boarding schools, they have a general bearing upon all classes of Academies.

In presenting the following means to prevent wrong doing and consequent punishment, we shall pass *over a score* of other means more or less familiar to all.

We select these because *experience* has taught *us* their *practical* utility.

I. Divide the pupils into 4, 5, or 6 *forms* or classes, (the use of the word *form* is best because *class* is associated with scholarship and daily school exercises.)

The advantage of this arrangement into forms cannot be over estimated.

In classifying for this purpose—consider age—mental ability—scholarship—industry—moral character—polite social culture—and let the pupil's *position depend* upon his *average* in these qualities—not upon any one or two of them—as a classification upon any *one quality e. g.* scholarship alone will not answer for the purposes of government.

The classification can be made when the *studies* are *assigned*.

A little attention will enable the teacher to make it *almost perfect*.

II. *Meet each* of these *forms* once or twice a week for special instruction in politeness, and those principles which *tend to form a complete character*.

These meetings may be made social and pleasant, and all the *form* to meet in them from choice.

Students love to be posted on all points of politeness.

The teacher can in a pleasant way, show that most of their wrong doings, are *also violations* of the common rules of *politeness*.

In a *familiar* way in these meetings, the teacher can also show the pupil that *he* is under obligations to improve the character of his fellow student—and

That it is his *duty* to *reprove* him for *flagrant offences*, such as *profane swearing*, having *obscene books*, or *pictures*, *petty thefts*, and the like;

That he *should report* him to his teacher, if he *persists* in his *wickedness*;

That persistent young sinners are unworthy of the society of good youth;

And that young men of good character should afford the teacher the means of detecting the *incorrigably wicked* instead of making themselves their accomplices in crime, by covering it up.

Each *pupil* can be made to *understand* that this habit of *reporting flagrant sins* (we would have no others reported), would prevent the young sinner from committing the very crime for which he would be punished.

The offender himself can be made to *see* and *acknowledge* that it is for his good to have *this restraint* upon him.

When the evil-doer acknowledges this before his companions—the *terrible odium* of *reporting* is *all gone*.

The moral youth is only *performing a duty* that even his wicked companion imposed upon him.

This principle once thoroughly *implanted* and a *form sentiment* created in its favor—and nine-tenth of all wickedness in school is *prevented*.

Form after form can thus, in a pleasant familiar way, be taught the folly and wickedness of *screening* young *thieves*, *blasphemers* and *moral seducers* from *just punishment*;

And that it is *not desirable* to *purchase* the good will of their wicked companions at the price of wrong-doing themselves.

This false notion among students that *good moral*, *order* *loving ones* are under obligations to keep the wicked conduct of the vicious—a secret from the *Teacher*, is as absurd as it is wicked.

We believe it is the duty of every Teacher to show his pupils the fallacy and absurdity of such principles, and thus prevent crime and its punishment.

We could extend this subject, or we could apply the same reasoning to other false notions among pupils, but we pass to a second *general means* of preventing wrong-doing. Provide the

pupil with attractive recreations out of study hours and encourage him in it in every laudable way.

Preventing students from visiting one another's rooms at all, either in or out of study hours—Saturday or Sunday—is an efficient means of encouraging innocent out-door amusement and preventing mischief.

Do you say they will violate this rule ?

Since we have adopted the rule not *allowing students to visit* one another's rooms, in study hours or out—Saturday or Sunday—we have not had half as much visiting rooms, in study hours and out, as we had in study hours under the old rule, "no visiting rooms in study hours."

III. Again, *immense power* in school government consists in authoratively requiring pupils to take as many studies as can be well mastered during the study hours, *the Teacher, not the pupil*, nor *even* the parent, being judge;

And in seeing that they are present at *every recitation*, and recite to the best of their ability.

We have known *many boys* to be saved from *expulsion*, by being required to take one more hard study than they were willing to take, and to recite it to the best of their ability, every day.

We consider punctuality at every appointment and recitation, such a preventive of mischief, that we make an absence from any duty the highest offence in school.

THE ARITHMETICAL PREPARATION NECESSARY TO COMMENCE THE STUDY OF ALGEBRA.

BY JAMES H. HOOSE, A. M.

Late Professor of Mathematics in Genesee Wesleyan Seminary.

Honorable Chancellor and Respected Gentlemen of the Convocation:

An earnest desire and hope that uniformity of plan and of operation may be secured in our academies and seminaries, is my reason for presuming to appear before this honorable body of educators.

No uniformity of practice can be secured unless there be theoretical uniformity. Theoretical uniformity depends upon a careful, conscientious, rigid, unprejudiced discussion.

I have selected, as a general theme, The Relations between the Academic and Common School Duties; as a special theme, under the general, The Arithmetical preparation necessary to commence the study of Algebra.

In submitting this theme, my hope is that some definite plan may be adopted for general practice throughout this State; and I also hope for a general and thorough discussion of the subject by this Convocation.

My general proposition is: That pupils in our State, excepting perhaps those in the classified city schools, are allowed to commence the advanced studies without sufficient knowledge and discipline derived from pursuing the primary studies.

Is not the present tendency of our academical instruction to assume too much elementary preparation on the part of the student?

Do not Faculties too often grant that the pupil is prepared for this or that advanced study, on no other ground than that the pupil desires to do thus and so, and thinks himself prepared?

Do any of our seminaries conscientiously and thoroughly adopt the plan of finding for themselves the exact attainments, so far as possible, of their pupils, at the commencement of terms, from set and definite examinations? Furthermore, if such examinations are held, is the pupil placed and retained in those classes into which he is properly qualified to enter? Or is he advised to enter this or that class, and then, on special pleadings, prompted by an

unwholesome ambition, allowed to take such studies as he still desires, notwithstanding his unproficiency; because, forsooth, he threatens to attend some other institution if not allowed to dictate his own studies, and thus his money and influence will be exerted in another direction? This insinuation is founded upon an actual state of things to which I have been witness.

Let it be granted that the seminaries have the right, theoretically, to assume that pupils are properly disciplined in the elements while attending the common schools. Does it follow that the best interests of education are served by following, in practice, a correct abstract theory, yet which at the same time is not, so far as facts seem to unfold, a correct practical theory? For is it a fact that our common schools, as a body, accomplish for the pupil this much needed thorough discipline in the elementary branches? In asking this I do not disparage our common schools; far from it. I would exalt them, would help them to a most noble and worthy future—they are even now among the glories of our State. Yet I must regard the evidence. So far as it has been possible, I have tried to study into the causes which produced the results, as developed during the past year by the Regents' examinations. These results, on the whole, discover a sad deficiency in elementary knowledge on the part of those students who are pursuing the advanced studies. It may be claimed that these examinations constitute no just test; that students once knew, but now have forgotten. Granted; then the instructors in the advanced studies stand condemned for not calling up and showing the relations existing between the principles developed in the primary and in the advanced studies. For certainly the relation existing between the principles of, say arithmetic and algebra, should be brought out fully in the class room in studying algebra, else the teacher is not yet an educator. Now, by this course, it soon appears whether the pupil has good qualifications in the principles of the elements. If pupils do forget isolated facts, the principles should be retained. So, by granting these examinations to be no just test, the Faculties of the academies are in more fault than to grant them a pretty good approximate test; for in the latter case it is clear there is a chance for excuse on the part of the Faculties—they can say that the early teachers were in fault!

Again, if I may be allowed the use of some of my personal investigations, I would state that I spent some time during last

fall and winter in visiting some of our leading representative schools for the purpose of developing an English course in the seminary with which I was then connected. My tour included the State Normal School at Albany, the Polytechnic at Troy, the Military Academy at West Point, and the Massachusetts Normal School at Westfield. I mention these particularly, for all candidates for admission to them are examined, and the institutions are of considerable age; besides, in some of them the candidates are of the younger class of academic students. To sum the results of my tour, the unanimous testimony of all was, that from year to year the candidates for admission reported more and more studies as having been previously pursued by them, while in their examinations they actually exhibited less and less proficiency in the necessary elementary branches. In a very special, earnest manner did Professors Bartlett and Church, of West Point, deplore this inattention in regard to the primary studies. I regard their opinions as very valuable, for their opportunities for knowing the early training of boys has been very extensive.

What schools are responsible for these things? The academies and seminaries can hardly be held directly accountable, yet it does seem as if they are indirectly the responsible parties.

For if they, with one accord, would demand and actually carry out the plan of a most thorough examination of all candidates for any of the advanced studies, it would make pupils more careful in respect to their elementary discipline; and also, if all the common school teachers in the State could be made to feel that their pupils, when entering the academies (it may be the very next term), must undergo a rigid examination in those same studies pursued under them, there would be more efficient work in our preparatory schools.

Besides, if our seminaries faithfully and honestly demanded this preparatory discipline before allowing to a pupil advanced studies, the large number of young men and women who annually go from these institutions to teach in the common schools, would have a much higher and better ideal of true scholarship, without which ideal one can never excel in giving instruction and in educating. This, again, would give us better pupils and students, who, when they left the academy as teachers in our schools, would do still better work; thus would this continued effort produce, in a series

of years, a rapid advancement in the standard of educational excellence.

But the seminary says to the common school: "Do your work better; send us better discipline; we are not able to bring up our classes to the highest standard of excellence, because the pupil lacks preparation." The common school, being modest, simply expresses regret, and wonders where the difficulty is, for she feels she does all she knows how to do.

Let this idea be elaborated more fully. The college says to the seminary: "You send us poorly prepared students; during our four years course we cannot advance the student to that high standard of scholarship desirable, because of lack of preparation while with you." "True," says the seminary, "but why do you censure us for that, the remedy for which you hold in your own power? Why do you allow them to enter when unprepared? If you accept any and every student that applies for admission, how can we retain them longer? Raise your standard of admission, and this will compel the student to remain longer with us, and we will do our part better." The college complies. Both institutions are benefited; the cause of education is advanced.

Acting upon this hint, the common school can say to the academy: "Raise your standard of admission and you will get better prepared material from us." Says the seminary: "If I do not do some of your work, not being endowed as the college, I shall suffer for means, from lack of money, for it is difficult for me to live; even now I am obliged to hire the cheapest teachers I can find, and am very much restricted in my plans for progress. If I lose any of my present support, I must, so far as I can see, cease to exist."

Ah! here comes the pale, pathetic plea of death, a terror to all evil doers. Let us not be frightened, but firmly face the grim visage.

If I were a common school, and were called upon to discuss this point, I think I should say: "If you cannot live without doing my special work, then you will help the cause of enlightened education by doing one of two things, either convert yourself into a properly graded common school, or else do as did the ghost of Banquo, when Macbeth said to it:

"Hence, horrible shadow!
Unreal mockery, hence!—Why so; being gone
I am a man again.

Did God make this world so small that one must live, financially, at the expense of another? Did not God make the greater and also the lesser lights? Are not the Heavens full of these wonderful works? And yet has not each his own appointed path?

But again. Is it not a fact that those colleges that raise their standard of admission are the most prosperous?

Which are our really influential seminaries and academies? Those whose standard of scholarship is highest. They are those that draw the talent and consequent support. The director of one of our leading educational institutions told me, that since they had greatly increased their requirements for admission, their numbers, during the following six or eight years, had nearly doubled.

To bring these remarks on my general proposition to a close, I would submit that the college, academy and common school, should each have its definite curriculum—that one should not attempt the work of the other. As it is in the college, so let it be in the seminary—assume that every student that enters the course is a candidate for a diploma; on this supposition examine all, as do the colleges. If deficient, send the student back to his elementary studies.

Again, it is asked, what is the use of anything in the way of action on the part of the seminaries, as the Regents, by their examinations, determine what students shall rank as academic? Granted. The Regents have in charge portions of the finances—their examinations are to determine who is entitled to a part of these finances. They have, by law, a right to determine the standard of admission to these financial privileges. Further than that is not specially under the statute. The Regents established their standard, their point of observation having reference to the general state of things as found to exist, and justice to all.

We, as educators, should have another and a higher standard—one that has reference to the highest and most general education. Money should have no part and parcel in our considerations of this question. It is above money. It is certainly not much to the credit of any institution that it cannot raise its standard of scholarship until compelled by the fear of losing a few dollars. It will be seen that my reason for not allowing the Regents' examinations to determine who shall constitute the academic students,

in our academic curriculum, is because it is too low. I would have it higher. Let the Regents follow, not drive with the fear of money.

It is a matter of much importance to know that there never has been, perhaps, so unanimous a feeling of the necessity of a proper division of work between the common and academic schools, in the New York State Teachers' Association, as was manifested at its late meeting held at Geneva.

I now turn, briefly, to the consideration of the special theme, as given under the general subject just discussed—the arithmetical requirements necessary to commence, with success and profit, the study of algebra.

Arithmetic is to algebra, or general analysis, as the twig is to the towering California pine. The twig grows—it is still a twig ;—it continues to grow—it is a staddle ;—it still grows—it is a pine tree ;—after more growing it is a California pine tree.

There is arithmetic—practical arithmetic ;—arithmetic again—the higher ;—same subject continued, *i. e.*, made more general—common algebra ;—algebra extended, including the higher analyses,—analytical geometry, calculus, and all their kindred branches—those branches by means of which Newton, La Place, and others, have been enabled, in their spiritual bodies, to ascend to the very dwelling place of Him that “stretcheth out the north over the empty place and hangeth the earth upon nothing.”

The mathematics, as a connected chain of progressive links, form one of the most beautiful of conceptions ; so perfect, so regular, so all powerful, so infinite in extension ! It forms one continuous, perfect succession of jointed reasoning.

It would seem that good logic would dictate the justice of studying this course in exact order of succession ;—just as the roof of a house is shingled—by commencing at the bottom and going upward, not downward ; nor yet commencing at both top and bottom.

Yet in the face of these seeming common things, algebra is often allowed to be pursued with little or no knowledge of arithmetic.

I am decidedly opposed to the too early study of algebra. Both reason and experience have driven me to this conclusion. To briefly state why young pupils should not be allowed to study *this* general analysis too soon, but give more time to arithmetic, I

can do no better than to quote from Chaucer's letter to his son, who was a student at Oxford. I quote in his own text from his "Astrolabie." After he has spoken to his son of the difficult things in the subject, he says: "And some of hem beene too hard to thy tender age of ten yere to conceiue. This Treatise deuided in fwe parts, will I shewe the wonder light rules and naked words in English, for Latine ne canst thou nat yet but smale, my little sonne."

For these reasons would I advise the arithmetical studies so far that the candidate for algebra could pass a thorough and critical examination, say eighty-five per cent at least, in the following:

The fundamental rules of arithmetic, including their combinations.

Greatest common divisor and least common multiple of simple numbers.

Fractions, both common and decimal, in all their simple transformations and combinations, including, in a very special and thorough manner, complex fractions, but not necessarily including repetends.

Denominate numbers.

Reductions.

Percentage, including interest and loss and gain.

Proportion, simple and compound.

If the pupil complete the practical arithmetic before commencing algebra, it is all the better.

When the pupil commences algebra it is quite doubtful, in my mind, if anything is gained in the end by using a so-called "Elementary work." Commence the university or academic edition, and continue in it for three, four or more terms, according to the size of the book and the amount of matter it contains. Study algebra slowly.

I am told that an elementary work simplifies the subject to the ability and comprehension of the subject by the pupil. Granted. What particular need of this simplification if the pupil has sufficient preparatory discipline, without which preparation experience shows there can be no good, continued progress? Is there any need of splitting a *billet* of wood in order that good, well-trained muscle may carry it?

I am aware that this view conflicts with that which would introduce mental algebra, and the simple elements as treated in those

primary works; or, in general, those small works that are recommended for beginners, now found among us.

It seems to me quite clear that algebra is one of the advanced or higher studies. If one of the higher, then why not practically treat it as such? Besides, to study algebra profitably it needs a mind capable of appreciating its abstractions, else much harm results from the ill-timed attempt.

I am told the pupil's mind should be early exercised in attending to the abstract, the general. Does not arithmetic furnish this field? How long was it before we, ourselves, could really comprehend even 1000 units? Does it not take much discipline? Then how much more to comprehend the x and y of algebra—the x and y that represent not only 1000, but may represent 1000 times 1000!

To sum it up briefly by analogy, it seems extremely unphilosophical to assign a difficult piece of music to a pupil to practice upon before he can correctly play the primary scale. He may learn music by rote. So he may study algebra by rote.

With these remarks, embracing my firm and sincere convictions of the points under consideration, and embodying the result of actual work and observation in the school room, I respectfully submit this brief paper for the consideration of the subject by the Convocation.

THE RELATION OF THE ART OF ANALYSIS TO THE ART OF TEACHING.

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I am to consider the relation of analysis, as an art, to the art of teaching. My ultimate object is to show that it justly claims a distinct and important place in every proper course of study; and that in a course of strict professional training preparatory to the practice of teaching, that place is of necessity first and foremost.

Analysis is the methodical and complete resolution of any object of thought, into its constituent parts or elements, for the purpose of determining its or their nature and relations as facts prospectively belonging to a complete body of science or art.

From the definition, it will be seen that analysis bears a vital relation to the discovery of truth in all its more subtle and profound elements. Truth is not first given to man in the abstract, but in the concrete. Everywhere throughout the world of matter or of mind, truth first appears in manifold organic combinations or schemes of being or thought. Everywhere, too, by a radical necessity of finite existence, it presents first, and of itself, only its surface manifestations. Having thus supplied mind with a field for the vigorous and self-improving exercise of its own powers, and an immediate ground upon which to stand in the prosecution of that exercise, nature stops; her mission in the unfolding of truth is ended. Beyond this, all is within the province of the self-active mind. Its reliance must be upon its own powers of investigation. And those powers can only proceed to the execution of their office work through what Shedd has finely termed "the high priori road of rigorous analysis,"—a road, however, which the mind must, like the engineer who would carry his continuous track through the mountain's rocky heart, intelligently hew for itself.

But the definition also takes ground that analysis holds a not less imperative relation to science. Gray has tersely defined science as "classified knowledge,"—a definition which, if original, deserves to be traced in letters of gold upon his monument. Now,

to the very existence of all, or any science, as such a body of classified knowledge or truth, analysis must be a sheer necessity. And this necessity may be evinced in various directions.

For, first, there can be no classified truth or proper science without *discovered* truth. Apparent, or surface truth, may appear in science, but can never constitute science. Its apprehension involves no other than mere spontaneous mental action, and gives little or nothing of the real body of truth. But, so far, there is no science. As the systematic product of the self-active mind, and as comprehensive of substantial and complete truth, science requires that analysis, taking the truth in its concrete organisms, shall, by successive stages of development, reveal it, from the superficial to the deep-seated and fundamental, in all its abstract elements and relations. This done, there is so far science, as *material* for science.

But other steps must be taken. Whatever has been discovered by analysis, as fact or truth, must be clearly discriminated from whatever else as similar to it or related, might be confounded with it. That is to say, there must be the proper defining of things, so that we may, for each, have that fixed rule by which it may be measured or readily determined as of its own kind. Without this no law of arrangement or classification is possible. But this very defining is the work of analysis; for it is only as analysis, like the chisel of the statuary, cuts away to the last grain the extraneous matter, that the idea of the discovered or discovered fact or thing stands out, like the statue, in clear, well-defined and immutable form. Analysis, then, in giving truth in defined shape, gives us science so far as *prepared* material is concerned.

One further step must be taken, however, before we have true science. Truths in nature stand in the order of cause and effect, antecedence and sequence, affinity or juxtaposition. But truths or facts in science must appear in a different and more distinguishable order. They must be methodically arranged according to well-defined similarity in either nature or relations. This we term *classification*. As such, it is the consummation of science. It gives at once truth, not only in its parts, but its complete scheme; it makes possible a distinct apprehension of the parts, together with a comprehension of the whole; and it determines the true material and method of subsequent communication. But *nothing of this* is possible save as the result of rigorous analysis.

For not only has analysis supplied the discovered material, and carved it into proper shape and limits, but we may say it is the keen glance of analysis that detects the true and determined place for every part, and it is its skillful, guiding hand which accurately distributes each part to its place. If "science be classified knowledge," we may add, analysis is the grand classifier.

And now, while as the result of analysis we have true science, we may nevertheless affirm that it is not yet assured or perfect science. "He that is first in his own cause seemeth just; but his neighbor cometh and searcheth him." By this we mean that, in true science, man gains nothing perfect by one first spontaneous effort, but only through a laborious path, patiently trodden and re-trodden. That is to say, the exact and complete truth is assured only through repeated analysis, each more clear-sighted and rigorous than the other. Hence, to the analyst himself, the analysis which has given him a science may seem to be just; and yet another, coming with a fresher insight, or even he himself, returning through his own work with still sharper discrimination, may come and search it out and detect imperfection and error. But this is *criticism*. Analysis is then the sum and soul of criticism; for criticism is but the application of analysis to itself—the dissection of the dissection—and that with an increased severity and keenness, the result of the advances already made.

Now, as we know that all errors in developed science are but the natural product of analysis false or imperfect, either through the incapacity, the impatience or the unfair bias of the analysing mind, we as truly know that the continuance of those defects or errors in science, undetected and unreformed, is altogether due either to the entire absence of this higher critical analysis, or to its limited or imperfect application to the work already done. Herein, then, the relation of analysis to the rectification and assured perfection of science is seen to be as vital as it was before to its inception and development. And inasmuch as we have already no stint of developed science, in one shape or another, and as little stint of errors and conflicts among scientists, we may, not without some fair show of reason, claim that the want of the times is a higher skill in analysis, and its wider application to criticism.

Such being the relation of analysis to the perfect development of science, we have to consider its relations to the proper culture

or development of mind. Science is not for its own sake, but only for the sake of mind. Hence, also analysis is not for the sake of science, but for the sake of mind as acting upon science and reacted upon by it.

Now, as there is no true development of mind except through the self-active exercise of its own powers, whatever supplies the best and broadest field for that exercise is of pre-eminent importance. But, from its necessary relation to all science, and to all art as the offspring of science, it must be clear that nowhere has the mind open before it a more extensive, exacting and practical a field of exercise than analysis. And the universal presentation of truth throughout nature in the concrete, as has been already noticed, so that analysis is the only avenue to the ultimate and complete truth, not only renders the field of analytical exercise as extensive as nature, but fixes the demand for that exercise as universally imperative.

But more particularly the practice of analysis holds a vital relation to the development of the mind as intelligently *observant*. Surrounded as we are by a sensible creation, appealed to by that first, and largely involved in its contingencies, every intelligent and economic interest of the present being requires that the mind should clearly see the things that are, so that, knowing them as they are, it may wisely and effectively subject them to its own ends of utility. Directly opposed to this, however, stands the prevailing tendency of mind to content itself with a mere surface-looking and shallow insight; and so fixed and habitual is this tendency that there can be no hope of its correction except through direct counter-training. That training, it is evident, must be only in the direction of analysis. It is not what you cause the mind to know that opens its eye and sharpens its vision, but what of its knowledge you lead it to look into and through, with jealous and patient scrutiny.

But beyond observation, the proper culture of mind involves acuteness in drawing distinctions; in other words, accuracy in defining things to itself. To the lack of this power, or the failure to exercise it properly, is due the vague and ineffective knowledge which men possess, and the thousand errors which mislead them and involve them in bootless conflicts of opinion. If they could or would first of all thoroughly distinguish what they see or hold, *so that* by no possibility it might come to be confounded with

something which it is not, there would come to pass a sort of universal exorcism of the human intellect—a casting out of the seven devils, shallowness, vagueness, crudeness, misconception, misrepresentation, sophistry, angry controversy and lies. But, as we have already seen, no such accuracy in distinction is possible except as the product of analysis, and hence no such power of definition is attainable except through its thorough practice.

Passing from this, we urge that true culture or development of mind demands the attainment of *logical power*, or power of just reasoning. Nature has imposed upon man not only the necessity of discovering for himself such truth as lies directly open or accessible to the observation in the world of the sensible, but also that of wresting from the unseen, the notional, those subtler, broader, higher truths, which are only approachable through the avenue of the logical understanding. Now, so vast is this realm, and so vital are its truths to all the higher being of the soul, that he who fails here, fails in precisely that wherein he is most pre-eminently, both a rational and moral intelligence. Develop the acquisitive powers, and you make the furnished intellect, the scholar; but perfect the logical powers, and you produce the creative mind, the thinker.

But very clearly, this latter development is only to be attained through the habitual practice of searching and rigorous analysis. For certainly, there can be no sound induction of particulars as the basis of generalized law, and no safe or sure deduction in the applications of general law, without such antecedent analysis of particulars as places them beyond doubt within the respective fields of induction and deduction, as valid examples. There can be no sound establishment of premises or subsequent determining of irrefutable conclusions without such accompanying scrutiny as fixed the entire circuit of the reasoning as valid and self-consistent. There can be no just and candid institution of analogies, without such a searching dissection of the several analogues as reveals their exact correspondence in the specific points, fundamental to the proposed inference. In short, there can be no clear and sound reasoning of any kind without such a rigorous analysis of subjects, proofs and processes as thoroughly lays open the whole truth to the certain detection and exclusion of error. Inasmuch, however, as analysis, as a *process*, is thus essential to all valid and conclusive achievements of the logical understanding,

only a just training in analysis, as a *practice*, can be expected to develop in the logical understanding the power to produce such clear and unimpeachable results. Analysis is thus the practical parent of all demonstrative power.

Lastly, in this direction, we claim for analysis the highest utility in the culture of mind, as securing a just balance of truth and command of knowledge. And here we urge, first, that in the apprehension of no mind can there be a just balance of truth, except that truth be clearly seen, not in isolated parts or disjointed relations, but as an organic whole, in some clear and comprehensive scheme. Herein we may, reverently speaking, say lies the secret of the vast, the sublime equilibrium of truth in the Divine mind, and the consequent universal consistency and eternal steadfastness of its action. In the Divine mind, all truth is completely apprehended as absolute science. Nothing being known only in and by itself, nothing can be known out of or in undue place. Hence, only so far as finite mind approximates to this comprehensive, this scientific apprehension of truth, can it escape the danger of unduly magnifying some specific elements of truth to the disadvantage of others, or to the loss of a proper balance throughout the whole scheme. All partial, one-sided or extreme views of truth are then such, simply because they are uncomprehensive, unscientific.

In the second place we urge, that without such complete views of truth in its scientific entirety, there can be no sure and complete command of knowledge. A certain superficial readiness may exist, and indeed is not inconsistent with a partial view of truth, just as there may be a certain celerity and dash in the movements of him who, with a few squadrons in hand, has only to keep in his eye a single point of attack, greater than is visible in the action of the master spirit, who, holding in the mind's grasp the entire field of operations, wields with decisive command the whole line of battle. But a thorough command of knowledge demands that every part in the whole scheme shall be seen only as a part, and in its precise place as such, for only thus can the mind be expected to lay its hand readily upon the precise elements at any time wanted.

Now, it will be seen without extended discussion, that both this balance and command of knowledge are impossible without *thorough classification*; for it is classification only which secures this

Methodical order and comprehensive view—classification only which provides a place for everything, and fixes everything in its place, and so renders everything most readily accessible. Now, as analysis is the parent of classification, its relation to this balance and command of knowledge as elements in mental culture and discipline becomes apparent. In short, in power of analysis is practically summed up all this power of well balanced comprehension and thorough command—the very crown of just and effective capacity.

And to the truth of this last position, all sound observation bears ample testimony. In every important walk of life is attained power of analysis, the chief intellectual element of ability and success. With the physician, it is the treasured analysis of cases in previous experience, which begets the clearest insight of the present symptoms, and leads to the shrewdest treatment. With the advocate, it is the penetrating analysis of character and testimony, which secures the firmest hold of both witnesses and jury, and culminates in the convincing and commanding plea. With the judge, it is the clear analysis of cases as related to antecedent rulings and existing statutes, that gives the authoritative decision. With the legislator, it is the candid analysis of circumstantial fact in the whole circuit of the particular social or civil need, that must determine the truly right or expedient, and thus give foundation for just legislation. With the statesman, it must be the thorough analysis of national rights, capacities and necessities, that can alone give birth to a broad, benignant and enduring policy. And so everywhere, it is analysis either spontaneous or predetermined, informal or systematic, that detects existing facts as preparatory to proposed action; gives full command of those facts in the progress of instituted action; practically determines the whole scheme of the action in progress, and thus becomes both prophetic and productive of the end.

We are now prepared for the application of these truths to our main theme—the relation of analysis to the art of teaching.

Here, then, first, it will be accepted as a simple truism that proper teaching requires that the teacher should himself know that which he attempts to teach. To hold otherwise were to assume that ignorance is competent to the just communication of knowledge. But it does not so commonly enter into the conception of just knowledge that it is something more than that which has

been merely learned. Memorizing is not knowing. I may as truly learn by the mere power of acquisition, that which I do not, in any just sense, know, as I may by the exercise of the reflective powers know that which I have in no proper sense learned. Hence, a real knowledge of acquired truth requires that that truth should have been thoroughly wrought over in the thought so as to become truly assimilated to the individual mind receiving it, as if it were, and always had been, a part of its intellectual being—a work which, the foregoing discussion has shown, can only be accomplished through a re-analysis of the acquired truth.

Now, it is the overlooking of this cardinal distinction between learning and knowing, and this relation of analysis to the transformation of the former into the latter which occasions the current dispute among teachers as to the comparative merits in recitation, of exact re-production from the memory or a free statement from the individual apprehension of the learner. The truth is, that is not a true art of teaching which contents itself with either as sufficient to a competent and proper knowledge. There must be the exact memorizing of those leading truths which are essential to a classified scheme, else there is in the pupil's mind no material for his analysis. There must also be the careful analysis by the pupil of the truths thus simply learned, and those deduced from them, else nothing of these becomes in any proper sense his knowledge. Clearly, then, a true teaching will positively forbid any attempt on the part of the pupil to give as a just recitation any ideas of science according to his own apprehension and according to that so over-done formula of shallow educators, "his own language," before he has faithfully performed both offices,—the memorizing and the analysing of the truth.

Again, this re-adjustment of truth to the individual mind, by the exercise of the analytic power, is as necessary to proper teaching in books as anywhere else. No book gives proper instruction which does not present a new and earnest attempt at a better analysis. A true book for the purposes of instruction must be crystalline and not conglomerate. That is, instead of being a mere mass of selected fragments of truth, taken in their pre-existent forms, and merely agglutinated by the force of acquisitive labor, it should present a reorganized body of truth everywhere penetrated and fashioned by the force of individual

thought. Unless it be such, it is, as the general law, no true advance upon what has gone before it, and no certain contribution to the stock of instructive material.

Furthermore, true teaching requires that the teacher should not only truly know what he attempts to teach, but he should know it truly as comprehensive science. The distinct elements of his knowledge should be, not merely in mind as parts of his own thinking, but as parts of a systematized whole,—as parts of a classified knowledge. And by this we mean, not merely as related parts in some passively accepted classification, but as digested parts of a classification, either re-produced or re-adjusted as the result of individual analysis. Without this individually re-produced or re-adjusted classification, the truth can neither be wholly nor truly known, nor can it be known in proper adaptation to either the instructing mind or the specific mind to be instructed. It is really in the light of this latter fact, that there becomes apparent the superiority of that teaching which, disenthralled from the mere slavery of working with the text book between the thumb and fingers, stands forth independently, and instructs from the systematized thought within. It is not superior merely because it is more free, but because, being thus free, it can hardly help taking upon itself, in both thought and its presentation, a living individuality, freshness and force. It brings the teacher into contact with the pupil, as an informed and vitalizing mind, and not merely as a stagnant mental conduit, through which heavily works its way, the foreign flow of some other mind. What the relation of the practice of analysis has to all this is readily apparent.

Passing now from its relation to teaching as the art and work of the scholar, we observe, further, that true teaching requires the constant presence of critical power. Perfection in the attainment or the presentation of truth is not attained “per saltum,” nor is it a matter of copy-right. It is now only through successive impulses and growing approaches, much as the swinger attains his most effective push and greatest elevation. Hence, the teacher will find, that in the most thoroughly digested text-book, in the instructions of his ablest guides, in his own most careful thinking, there is little likelihood that the truth will be made to appear without some imperfection or admixture of error. How much of the latter there is, can only be known to the unwearied and exact-

ing analyst. Suffice it to say, that if time permitted exemplification, it might be shown to be everywhere present, and, perhaps, nowhere to a more marked degree than among our elementary presentations of science, usually the work of earnest and practical minds, but not those of the highest style of endowment or discipline. And this need not be accepted as condemnatory of those by whom such offences come ; it is the natural concomitant of finite imperfection, and the simple result of a prevailing lack among authors and educators, of that higher style of analytic culture and power for which we are pleading.

Now, it is doubtless incumbent on every scientist, both for himself and others, to apply to the correction of such errors, so much of that power of analysis as may be within his capacity and attainment, so that each successive impulse of truth from one mind to another, may swing it still higher in the arc of approximating perfection. Yet the scientist, from the absorbing and, we may add, naturally biasing pursuit of a specific and, perhaps, favorite branch, is in hardly so good a position for instituting such a work, as the teacher who has rather to do with varied science, and with science in its general relations to instruction. While the scientist may therefore be regarded as the developing agent, the teacher is better situated to act as the rectifier of science. But this he can only be through attained power as an analyst.

The importance of this power in his case, may be made more evident by some practical reference to the specific uses he may be called to make of it in the work of instruction. Those uses may sufficiently well for our present purpose, be distributed under seven general heads ; namely, those pertaining to the manner of presentation,—*defective style* and *faulty order*; and those involving the matter of truth, or *false statement*, *imperfect discrimination*, *inexact definition*, *incorrect classification*, and *illogical reasoning*. In these different directions, faults are constantly occurring, often in grave forms and productive of mischievous results ; and, hence to a greater or less degree, the perfection of his art of teaching will demand of the teacher, their correction through a rigorous application of analysis.

But beyond this critical skill which the teacher needs, and which depends upon his power of analysis, it is further evident *that the perfection of his teaching requires in him, that even*

balance and that thorough command of knowledge of which we have before spoken. For as to the former, how plain and positive must be its tendency to secure in all his instruction a freedom from narrow views, undue bias as to particular branches or methods, and inconsistent or false teaching, errors, very naturally, but not less deplorably common throughout all departments of instruction.

As to the latter quality, command of knowledge, its importance to a perfect art of teaching no one will question, certainly not so far as readiness, clearness, and completeness in seizing upon and applying the required truth are concerned. The very struggle of modern educators to secure extended facilities for specific normal training, and the earnest though ill-considered effort to sum up that training in the mere communication of better methods, and the development of simple facility in their use, is itself proof of a very general acceptance of the truth of the principle advanced.

One other characteristic of this command of knowledge, however, we fear is too much overlooked, namely: demonstrative command—that is, the power to seize upon and apply the required truth in the light of clearly perceived and well-assured proof. The age of mere dogmatic supremacy has past. Everywhere enlightened mind is swinging clear from mere blind faith and grasping after rational certainty. It is true there is a tendency to press the demand for demonstration to an unwarrantable and even dangerous extreme. Men in their prejudice, or blind eagerness, often seek to carry reason into regions of thought to whose subtle atmosphere and sublime heights the buoyant wings of an enlightened and reverent faith are alone equal. But this excess by no means invalidates the just claim for a broader and more searching application of the logical understanding within its proper field. And only by such an application of that faculty, and its processes, can that tendency to ratiocinative extravagance be corrected. Not by mere dogmatism, but by proof, must truths of the *understanding* be established; not by mere dogmatism, nor indeed by *logical* proofs, must truths of the *reason* be sustained, but by the clear demonstration that they lie of necessity beyond the province and power of the logical understanding, and are the higher and unapproachable right and property of spiritual intuition or revealed faith.

Hence, we urge that the perfection of his art of teaching, as

adapted to meet both the claims of truth and the wants of modern thought, demand that the teacher shall possess that demonstrative skill which analysis only can create. In other words, the teacher must be a *thinker*—a clear, self-poised, analytical thinker. As a mere dogmatist, formalist or synthesist, he is “weighed in the balance and found wanting.” Only as a thinker can he stand forth fully approved as worthy of his position, and equal to all its high claims or pressing exigencies.

Herein, then, we discover finally the true nature of a just normal training, and the proper province and aim of normal schools. That is seen to be the only consistent and effective training for the teacher, which develops in him the most admirably this power of analysis or thought. Acquired methods, without individual analysis or thought, are mere phenomena without substance; they give superficial learning without substantial power. As to that readiness of presentation which specific training in these methods may induce, while in itself well enough, if it does not go back of the methods themselves and root itself deeply and ineradicably in that individual analysis or thought; in other words, if it is not their direct and consummate product, it is mere blind skill, mere unintelligent parrot-like facility, both unreliable and unworthy.

From this it will be seen, as a closing summary, that a proper normal school is simply a school of analysis; that all true qualification for teaching is founded upon and built up in the power and practice of rigorous analysis; and that in the clear, comprehensive and compact results of that analysis, all proper and potential knowledge must of necessity consist.

A. M. D. G.
CLASSICAL TRAINING.

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When at the Convocation of last August, I submitted a few remarks on this subject, a resolution was offered and adopted, requesting the presentation of the same views in a written form, for the conference of the present year. The following paper is prepared in conformity with that resolution. The Convocation has evinced a liberal spirit in its desire to glean information from every source, and in response thereto many valuable suggestions on education have been here offered. It is a pleasure and a duty to attempt to make a small contribution to the general store. This is the only motive I have on the present occasion.

The subject is one of importance, for if the classics are to be, as they have always been, the groundwork and main branch of a liberal education, it is essential that the short time our youth pass in academies and colleges—less in America by some years than elsewhere—should be economized and turned to account by every means sanctioned by wisdom and experience. Not only in this country but in Europe a vast interest is taken in these matters; but official reports, as well as learned treatises on both continents, show a wide divergence of views as to the best method of instruction. Wherever the truth may lie in these extreme oscillations, it is certain that no question can be of more universal concern than one which turns on the best system of developing, in a healthy manner, the nascent faculties of the mind. Leaving aside the definition of education in its broadest acceptation, that is the gradual unfolding of the innate powers of man, viz: his will as well as his intellect; leaving aside all dispute as to whether the classics should or should not form the principal branch in a collegiate course, surely, the inquiry as to the best mode of imparting instruction is common ground, on which men of all opinions can meet and deliberate. Not being known to you, as a learned professor or profound scholar, the system advocated by me will have other and stronger recommendations than if it were of my own crude invention. The plan of studies, the rapid outlines of

which I will endeavor to draw, has, I think, the support of the most eminent men of antiquity, as far as my reading goes. It has been substantially in practice for centuries in the most celebrated universities of Europe, and is approved by authorities of modern date, whose testimony you will freely accept.

As it would be too tedious to show the proofs of this traditional teaching, they will be only alluded to incidentally, while treating of the system itself. My arguments will be more to show that this method is built upon reason and the nature of things, and ensures the end to be obtained, viz., sound and salutary discipline of the mind, than to give historical proofs of its existence.

The manner in which Latin and Greek are at present taught, is—based upon the supposition that they are *dead* languages, which is only partially true. Grammars in the vernacular are used—the rules are learned by heart; lessons in translation are given, which pupils, with the aid of dictionaries and copious notes, are expected to find out with the least possible help of the teacher. Parsing, scanning and analysis are required, and when the higher classes are reached, a Latin composition is expected of the student. A great number of authors are read, much ground is gone over, and the ability to render the sense of the author in a general way, is regarded as the test of one's acquirements. In the English public schools and French lyceums, there are other exercises, as we shall see, but in the main, there are but two systems of teaching, the one consisting in private study, or in teaching oneself as much as possible, wherein the student aims at rendering himself "independent of the teacher;" the other consists in oral teaching, and as long as the relation of teacher and pupil exists, so long do both perform their respective parts. Oral teaching, besides the suffrages of so many men of weight, has in its favor a certain adaptation to man's mental organization, and is practiced instinctively in imparting knowledge of any kind.

Now to review some of the *industries* of this last system :

1st. Speaking Latin. What is said of Latin may for the most part be said of Greek, so that to consult brevity, I shall only speak of the former. A language to be learned well, should be treated not as a *dead* but as a *living* language. Cardinal Mezzofanti, himself a walking polyglot, remarked, that whoever desires at the start to *root* himself in the study of a language, ought to read, speak and even dream in that language. It is the means

nature employs to transmit living speech to the new generations. One learns to speak by practice, as one learns to walk in walking. As soon as a Latin grammar is placed in the hands of a lad, let him learn to name in Latin such objects as are most commonly used in class, and such as he most frequently may have occasion to mention. Afterwards some few short and easy phrases of unquestionable Latinity—one or two such phrases a day would suffice, if their signification were perfectly understood. In this way the food is assimilated to the mind and the process of digestion, so far from weakening, only augments the strength and appetite. That practice renders perfect, we not only see in children at home, but in those who go abroad with their parents. How often it happens that the son of a consul or minister is able at the end of a few months' residence, to converse fluently with the inhabitants of the country to which the father is accredited, while the father himself remains in ignorance of the prevailing idiom. This is not due so much to the difference of ages, as to the fact that the youth feels the necessity of fraternizing and conversing with the people around, and thus imitates what he hears. A person need not have on hand a large stock of words in commencing to speak; children have a very limited vocabulary, but still they manage to speak and make their thoughts known. That the teachers themselves, then, need not have a complete knowledge of Latin in this case, let me show by the words of the celebrated Rollin *traité des études*: "Speaking is an exercise necessary," says he, "to those who are one day to study law, philosophy or theology. They must be accustomed early to speak the language employed in the schools;" (Latin was then used). "The habit of speaking Latin facilitates the intelligence of that language in rendering it more familiar, and as it were, natural; it also aids in composition, in furnishing expressions in greater and richer abundance." Again, he says, "the Romans in their youth were exercised in Greek composition, and no doubt, in speaking Greek. In fine," he adds, "this method would not only be useful to the scholars, but would be of service to the masters, in procuring for them a facility in speaking Latin, which cannot be acquired, but by long use and frequent exercise." So that a teacher, in providing the words for others, is insensibly improving himself.

There would be a manifest advantage in using a grammar written in Latin, to learn the rules, provided such rules were clearly

explained, both as to the sense and application. The Latin, so far from embarrassing, would augment the little treasury of words. To this might be added a few simple and easy dialogues, which would wash down the dryness of the declensions and conjugations. There is no fear of spoiling the maternal tongue; experience shows that boys are capable of learning even several languages at a time. I have seen young men from Alexandria, in Egypt, which is a kind of world's metropolis, who spoke the dialect of the common people, and also the Greek, French, Italian and English, with great fluency.

I may here assert, that it has never happened that one speaks his own language worse, because he has learned another, especially if that other be the Latin; unless he be deprived of the opportunities of speaking his own. This would not happen in our supposition, for most of the time in class, and all the time outside, he will speak the national language. The soundness of this method has in some measure been recognized by the favorable reception and success that books on the Ollendorf principle have met with from the public.

According to that plan, one commences to speak at the very outset, and, as new words and phrases are added, the range of expression is enlarged, so that in reaching the end of the book, one has passed in review the chief difficulties of the idiom. The defect therein is the want of the living teacher, who must rectify what is vicious in style and expression and give an example of correct locution.

It follows that if youth are to be habituated to speaking Latin, they should seek to acquire the *precise* meaning of words. This is the first lesson in that mental training, which is the chief object of classical studies. Secondly. They should labor to attain a correct and generally received pronunciation, and a knowledge of quantity. Defects in these particulars are rarely amended in later years. Nothing sounds so harshly to a practised ear as a long syllable made short, or a short one made long.

Memory.—In any complete system of education, the memory is a faculty to be carefully cultivated. We see how necessary it is in after life, as persons in professional careers are obliged to resort to an artificial memory to keep in mind complicated details and statements. There are no limits to its improvement, without injury, nay with profit to one's intellectual faculties.

Quintilian calls it the treasury of knowledge, and advises that "young people commit a great deal to memory," and we see, in fact, that they are peculiarly apt at this kind of work, for in a short time a lad or lass can, without apparent fatigue, learn by heart an amount that would appal one of riper years. He adds, "that though it be a gift of nature, it is strengthened by practice and weakened by neglect." The kind of memory referred to is not that of a parrot, but an intelligent memory, which perfectly takes in and appropriates the sense of what is learned. In order to ascertain if this be the case, the pupil should be called upon to repeat from time to time, in his own words, the meaning of the author.

The subject matter for memory should be taken from the most approved authors, as well classic as (in our case) English. This is recommended by Quintilian (whom I cite often, as he wrote expressly on these matters) and by Cicero, who says: "The memory is to be exercised by learning by heart as many of our own (Latin) authors and others, as we can." The Greek was the classic language for the Roman youth, and the prevailing practice was to habituate them to learning it by heart. It is wonderful how often these elegant turns of expression, and words stored in the memory, are unconsciously reproduced in writing and conversation.

"Quo semel est imbuta recens servabit odorem
"Testa diu."

Just as the phraseology of man smacks of the badly edited newspaper, he is daily in the habit of poring over, or, to be more in keeping with the quotation, as the vase, though broken, will still preserve the scent of the roses. A great modern statesman is said to owe his lively imagination and copious diction to the habit of learning by heart, every day, some choice morsels of English verse.

To resume then; it is with the lowest classes this exercise should commence, and continue till the last year of the course. The number of lines learned by heart need not be many. Every day, however, it should form part of the recitation.

Besides the warranty of the respectable names among the ancients just cited, we have for it the practice of the English Universities, and such others as have adhered to the old traditional usages.

Formerly exercises in memory were much more rigorous than

they have since become. Some one, writing in the thirteenth century, under the name of Boetius, gives the plan of education in use at that period: "At the age of seven years," he says, "the child should be applied to *reading* his authors, *which requires little time*." At the age of eleven he is put to studying Seneca, Lucian, Virgil, Horace, Persius, Statius, Capella and Ovid. He must not only read them, but they are to be learned by heart. "*Hæc sunt indaganda, memorialique cellulæ commendanda*." "*Stored in the countless chambers of the brain*." Such a degree of precocity would seem prodigious to one of our day, under any other supposition than that the Latin was spoken from childhood.

Prelection.—By this term is understood an explanation of the author, of such passages and precepts as compose the lessons of the following day.

Nowhere does the advantage of oral teaching over the plodding and laborious system of private *delving*, appear more manifest than in this exercise of class. True, it demands more preparation and activity on the part of the teacher, but it insures a rapid and a complete return.

The teacher should point out any applications of the precepts or rules, any apparent exceptions or deviations, the peculiar aptness of expression in any given case, the beauties of certain passages, the force of the allusions, &c., &c. If the treatise be an oration, he should explain the true statement of the case, the circumstances under which it was delivered, the prejudices to be managed, the points to be glossed over, the reference to the then prevailing customs and contemporaneous history; in fine, all the adjuncts which bring before the eyes a living and speaking picture of the times.

This prelection is necessary, for the authors, after all, are pagans; their morality is loose, their ideas are sensual, their estimate of true greatness false; and while admiring what is good in them, an antidote should be administered to counteract what is vicious. This prelection is necessary, for, in the first place, the ideas of a man are far more mature than those of a boy, requiring some effort in the latter to raise himself to their level, and if to this be added obscurity in regard to customs, allusions, expressions, &c., the attention is fatigued, and disgust inevitably ensues. I know of no truer picture of dulness, and no greater waste of *mental energy* than the occupation of a young man with dictionary

and notes, attempting to find out the sense and beauties of a classic author. These notes were made originally for the teacher, and not always accredited (be it said in passing) to whom rightly due. A Chinaman, with Washington Irving's History of New York, without note or comment, would be apt to make as much headway as a young man employed at such a task. Teaching, that is explanation, compels the attention and obliges the student to make an effort to understand and retain the lesson. It stimulates and quickens the perceptions, and augments interest in the work. It has been truly said that the greater interest a man takes, the more one is able to employ his faculties without exhaustion, and the greater their powers become. Thought is called into activity, and that is one great object accomplished. The scholar takes pleasure in proportion as he understands the whole drift of the subject, and its mode of treatment. The author becomes modernized, and the youthful mind is not slow to discover parallels, in his own limited experience, to the manners described, the vices satirized, and the springs of action disclosed. The remark has often been made that only a small percentage, in most colleges, is able to keep up with the class. I venture to say that if prelection be adopted, three-fourths, or even nine-tenths, will not only follow, but will exhibit a lively pleasure and acquire a taste for its exercises.

This prelection will not supersede private study. The teacher is not doing the work for the student; he is only removing the difficulties. There will be enough occupation found for all the time devoted to study.

In regard to the lesson explained, the student might be required to learn by heart a portion, or the whole of the prelection, so as to give the Latin for the English. There are three advantages in this: 1st. For the memory. 2d. In obliging the scholar to speak Latin. 3d. The necessity of knowing thoroughly the lesson, and knowing it *both ways*.

VERSION, THEMES AND IMITATION.

By version I mean carefully written translations, made with or without prelection. By theme is meant simply a Latin composition. To simplify matters, let us classify them under one head. The chief utility of the classics may be said to consist in the faithful performance of these exercises.

The object is not precisely to learn Latin and Greek, but to acquire a knowledge of the value of terms and develop thought. Without desiring to write an apology for classical studies, I may be permitted, in speaking of versions, themes and imitation, to show how they conduce to their ends. By comparing two languages, and seeking in the one a perfect equivalent for a word or phrase in the other, a youth performs the highest functions of thought; he is learning the logic most adapted to his age. While obtaining a knowledge of words, he is acquiring a knowledge of *things*. "Thought and expression," says Lindley Murray, "mutually react upon each other, and they who are learning to compose and arrange their sentences with accuracy and order, are at the same time learning to think with accuracy and order." Words are but the vehicle of thought, and as we have to express our mental conceptions by means of sound called words, taste, judgment and even genius are required to express them with the requisite qualities of *correctness, clearness, elegance and variety*.

Word-weighing is as requisite to a writer or speaker as a knowledge of weights and measures to the merchant, as skill in handling the implements of his craft to a workman, or as an acquaintance with forms and the admixture of colors to a young artist. It has been fitly called a "prelude to the highest operations of thought,"—a searching and painful analysis to be undertaken in youth rather than in later years. Now, experience shows that it is best accomplished by the comparison of two languages, one's own and the Latin, which is regular and logical in its structure; by taking hold of some of the best writers of antiquity—of those great minds, our masters in all things, who have stereotyped their ideas in living words—and try to reproduce the same force and clearness in the translation.

Mad. de Stael has shown us in a few lines how this study supplies at once the mode of thinking and material of thought. "It is not without reason," she says in her work on Germany, chapter 18, "that the study of the ancient and modern languages has been the base of the establishments of education, which have formed the most capable men of Europe. The meaning of a phrase in a foreign language is at the same time a grammatical and intellectual problem. At first the pupil understands only the words; then he rises to a conception of the phrase, and soon after the charm of *the expression*, with its force and harmony, and all that is in the

Language of man, by degrees become perceptible to the child who translates. He tries alone the difficulties which two languages together offer to him. He slowly discovers the ideas, compares and combines the analogies and resemblances, and the spontaneous activity of the mind, which of itself develops the faculty of thinking, is vividly excited by this study. The *number of faculties* which it brings into play gives it the advantage over any other labor. We are well pleased to employ the flexible memory of a child in retaining this kind of acquirement, without which he would be kept within the narrow limits of his own nation—narrow, like everything that is exclusive."

If the *about* and the *almost* are permitted in these exercises, the student will acquire a loose and negligent style, a vicious habit of reflection, more injurious to him than total ignorance. He must know *precisely* the thought, and he should try to render it in various ways until he hits upon one which expresses it with more energy than the rest. If one is to be brought up a sound thinker or writer, he must begin by removing all ambiguity in the use of words, for I am convinced that the cause of the greater part of misunderstandings among men, arises from their not attaching the same meaning to words, or to their not expressing themselves accurately enough. Version is not only the work of a boy, but of a man. The ability to render perfectly a Latin or Greek author into one's own language, is justly a test of scholarship. Dryden, speaking of this work in its last degree of perfectibility, says: "No man is capable of translating poetry who, besides a genius for that art, is not a master both of his author's language and his own. Nor must we understand alone the language of the poet, but his particular turn of thought and expression, which are the characteristics that individuate him among all other writers." In England, we have the extraordinary spectacle of two great men, rivals in politics, as heads of parties, and also rivals in letters, trying to outdo each other in the translation of Homer's *Iliad* into English verse.

In this exercise, it is natural that in the lower classes narration and description should be preferred. This kind of composition is best suited to the nascent minds and vivid imaginations of the young, is useful in itself and not a little difficult. (Vide Quintilian de Oratione, B. II, chap. 4.)

While versions aid to give us particularly a knowledge of our

own language, while they enrich our vocabulary, it must be borne in mind that the contrary process of rendering the vernacular into Latin, impresses this knowledge more deeply upon the mind, and obliges one to that most irksome but salutary process, *to think by rule*. This art is not attained in a day, but one must be gradually habituated to it. In England, themes are required in matriculation at the colleges, and in France they are exacted from all the candidates for the degree of Bachelor, without which no liberal profession is open to them. This supposes that aspirants have labored at such work before presenting themselves. Moreover, one of the objects in learning a language is to *know* it. Now, one cannot be said to *know* a language unless he is able to write it and express himself in that language. In a few months an intelligent person may be able to *read* almost any foreign tongue. Persons acquainted with Latin and Spanish can easily read Italian, Portuguese, &c., without having studied them; but it cannot be said that they are masters of Italian and Portuguese.

In the versions and themes it is profitable to exercise, says Cicero, the pupils in the imitation of some standard author. "Optimos quidem et solum et semper." Man is said to be a creature of imitation. It is well to turn this proclivity to account. Quintilian says (Watson's Translation de Oratione, chap. II): "There is an innate propensity in man to do what we approve in others. Boys follow the traces of letters in order to acquire skill in writing; musicians follow the voice of their teachers, and painters look for models in the works of preceding painters. Even farmers adopt the system of culture approved by experience." In any of the professional careers, at the bar, in the senate, in the pulpit, or on the stage, it is considered a great advantage to have the most perfect living models before one's eyes, as the excellence of the original is unconsciously imitated. So, too, if we are penetrated with the beauties of the written models, we do no more than follow nature in trying to imitate them in their language, or reproduce their elegance in our own. It is a wholesome exercise, if for no other reason than to show how far we fall below the perfection of the model. In looking over the productions of the English muse, one is struck with the fact that the great bulk, if not the most chosen morsels, are either version, *i. e.*, translation, or imitation. The authors who excel in it are not the less wanting in nerve and originality. This practice has so fallen into disuse of

late, that I remarked in a commentary on Quintilian in this matter, the writer did not understand what the Roman rhetorician seemed so strongly to recommend, and advises that the word *imitatio* should read *lectio*. Of course, imitation in themes and versions is not to be *servile*. We are not to imitate the defects of an author, for a lifeless copy in the sounding of the periods and in the verbal turns, would be a pure burlesque.

Next in order comes analysis. This exercise does not essentially differ, in the system I am trying to expose, from that generally in use, except that it is made in the lower classes in *writing*. According to Bacon, "writing makes an accurate man." "Write much," "*quam diligentissime et quam plurimum*," is the advice of the best guides in these matters, for besides accuracy, it makes the impression more lasting. The powers of speech can be developed mechanically, it is true; but as the chief end is to beget reflection, *analysis* and *parsing* are essential. The advantages of this drill are so obvious and so generally recognized in practice, that comment is not needed. The insight a pupil acquires into his own language is a sufficient plea for their adoption. I well remember that the English grammar made no impression whatever on my mind, until I had obtained some notion of the Latin. *Doceamus*, v. g., as the Count de Maistre observes, is a soldier with the badge of his company, regiment and brigade so clearly marked that no one can mistake. An acquaintance with the uniform of these foreign troops leads us to observe the distinctions less marked of our own. The expedient, I have heard recommended here of inducing scholars to make out a list of such derivatives in English as are traceable to certain words in Latin, can be employed through the entire grammar classes.

In fact there is scarcely an expedient imaginable for imparting instruction which is not either actually adopted in our system, or which may not be adopted by an ingenious teacher, without the slightest change in the general plan.

The analysis in the grammar classes will naturally differ from the analysis in the more advanced courses. Please bear in mind that by the word "Grammar," is not meant simply the science of declension, conjugations, syntax, &c., as some have erroneously supposed. The ancients included in it all that regards the correct use and interpretation of language—" *Grammatica est scientia interpretandi poetarum atque historicorum, et recte loquendi*

scribendique ratio"—says Raban Maur, an old writer of the 11th century. Saint Augustine says, that from his earliest years, he loved letters, not those taught by the highest masters, but what were studied under *grammarians*, who were professors of language and literature.

The kind of analysis in the higher classes is of sovereign importance in developing taste and acumen. An extract from my oft-cited Quintilian, B. II, ch. 4, will show how it was practised among the Roman students of Rhetoric. He says, "it seems easier, as well as far more advantageous, that the master, after calling for silence, should appoint some one pupil to read (and it will be best that this duty be imposed on them by turns) that they may accustom themselves to clear pronunciation, and then after *explaining* the *cause* for which the oration was composed, (so that what is said may be better understood) that he should leave nothing unnoticed which is important to be remarked, (*Prelection*) either in the thought or the language, that he should observe what method is adopted in the *exordium* for conciliating the judge; what *clearness*, *brevity* and apparent *sincerity* are displayed in the *treatment* of the *facts*; what *design* there is in certain passages, what well concealed artifice; (for that is the only true art in pleading which cannot be perceived, except by a skilful pleader;) what judgment appears in the *division* of the matter; how subtle and urgent is the *argumentation*; with what force the speaker excites, and with what amenity he soothes; what severity is shown in his *invectives*; what urbanity in his *jests*, how he commands the feelings, forces a way into the understanding, and makes the opinions of the judges coincide with what he asserts."

In regard to the *style*, "he should notice any expression that is peculiarly appropriate, elegant or sublime, when the *amplification* deserves praise, what quality is opposed to it, what phrases are happily *metaphorical*, what *figures* of *speech* are used, what part of the composition is smooth and polished, and yet manly and vigorous."

I make this extract in order to show the searching analysis that can be made in a discourse. Be it remembered that the *amplification* here spoken of is not merely the enlargement of an idea without extending its limits, (for this is only one of the meanings of the term,) but the presentment of a telling argument under

every point of view calculated to produce impression. It is, as Cicero says, "*summa laus oratoris*,"—"the chief glory of an orator," which is applicable more to the development of an idea than to the increase of the adjuncts.

This distinction is made, for I would not admit the exercise of varying a phrase in every possible way, always adhering to the same sense, to be the same as the enforcement of a strong point and the development of a proof or proposition. The former is useful in giving a command of language, and, above all, necessary when one has lost the thread of his discourse, to make "music on one string" until the train of ideas is caught. But to return to analysis. A student could not be expected to do this work, unless a discourse or treatise had been dissected in this manner for him. Afterwards he might undertake the work himself, and, to use the words of Quintilian: "I will venture to say that this sort of diligent exercise will contribute more to the improvement than all the treatises, rhetoricians ever wrote," and he might have added that it would do more to form the style and beget habits of research, than whole volumes skimmed over in a desultory manner.

As a preparation for this work, it seems requisite that the scholar should have some idea of what are called the "Topics," (invention) which afford the key to the science. These topics are certain channels in which arguments usually flow, and are therefore to be looked for in those channels. "*Loci Oratorii*," says Cicero, "*sunt quædam argumentorum sedes*," &c.,—"Arsenals or store-houses of argument," in which they lie hid, as it were, and whence they are to be drawn by meditation." Blair does not esteem them of much account, it is true, and hardly any English rhetoric takes notice of them; but Aristotle, Cicero and Quintilian treat professedly of the topics, and attach to them very great importance. J. Q. Adams, in a speech before one of the New England colleges, is the only American who, I find, has made allusion to this rhetorical category.

Burke must have availed himself of their aid, as his speeches clearly indicate. It is impossible that Cicero should have interwoven so many of the "Topics" in his various discourses without having applied his own theories and skilfully contrived their employment. It is not my design to show the nature and functions of invention, as defined by writers, but only to insist that for the

complete mastery of the ancient and most modern discourses, we should have familiarity with the arts and appliances they used. In attempting *amplification* on one's own account or in analysis, an acquaintance with the "Topics" affords a ready means and a test.

Latin Versification.—In this matter-of-fact age there are many who will smile at the simplicity of any one who advocates the utility of requiring youth to undergo the drudgery of making Latin verse. Nevertheless there must be and is some advantage to be derived from it, otherwise it would never have held its ground so long in the most prominent universities of Europe, and notably of England. At Eton, Harrow, Winchester and other public schools in that country, the science of verse-making forms a prominent part in the daily tasks, and boys used to be, and perhaps are now, systematically flogged into its mysteries—a false quantity being looked upon as an unpardonable sin. The *Tripes* in the universities show how tenaciously the English adhere to old traditional usages. You sometimes read in the papers the demise of some distinguished nobleman or country gentleman, who, in his youth, achieved the proud distinction of having, at Eton or elsewhere, made the best Latin verse. But, besides the fact of *possession* and *prescription*, Latin prosody has other titles to consideration. Nothing rivets more firmly the attention than the attempt to file into line a certain number of Latin words conveying a definite signification. It conduces to precision and niceness in the choice of expressions, obliges to the study of synonyms and idiomatical turns, and in short intensifies the advantages of the themes and versions. It habituates the student to combine sound and sense, thought and harmony, force and elegance. He must consult brevity as if he were writing a telegraphic despatch, and melody as if he were composing for the minstrels. It lays open the beauties of the Latin poets, and, it is not too much to say, gives a facility for English versification, or at least enables us to appreciate better our own and other poetry. Without asserting that Milton, Dryden and others wrote so well *because* they were acquainted with Latin versification, we may safely assert that to this knowledge we are indebted for many of their choice productions. The pupil requires much aid in this species of composition, for if left to himself, with only his "Gradus" and book of "Verse-making made easy," reflection and originality disappear,

the task becomes insipid, and the young rival of Virgil subsides into a hexameter machine.

COMPETITION, REPETITION, &c.

In the grammar classes much good can be effected by encouraging a spirit of praiseworthy emulation. It is a good expedient to divide the class, if it be numerous, into two sections or parties, ranged according to the merits of each, and during the recitations and other exercises permit one side to correct the other. The tact of the teacher is of much account in this contrivance; one may succeed well, another badly. The attention is kept alive in this rivalry, the interest awakened, and every little private "Greek" or "Roman," intent only on gaining "victories," is in reality putting into play his utmost power of criticism. Emulation will not only be aroused at this time, but in the repetitions and examinations which are to test the relative progress, there will be opportunity for remarking those who excel, and the amount one learns in those repetitions.

When we consider the natural inconstancy of the human mind, especially in the young, and how fleeting are the impressions made upon it, we must admit that in any thorough systems of instruction, frequent repetitions and examinations must be resorted to in order to produce any durable result. At West Point how often the same author is reviewed and the same lessons repeated until they become fully understood! In England, as it would appear from the report of the commissioners to enquire into the state of the public schools (1864), the practice of repetition, carried much further than in most countries, is still kept up, though of late years it has somewhat declined, and has been followed by a corresponding decline in proficiency.* The chief value arises from the fact that knowledge is impressed more deeply in the mind, and a clear conception formed of things indistinctly apprehended. Repetitions, like the afterwork in photography, bring out in more definite outlines the images already traced. A *little* known well is worth more than a mass of heterogeneous facts. Moreover, the mind is trained to overcome all the difficulties that present themselves. If a soldier, in advancing into an enemy's

* This is contrary to what was asserted on this floor yesterday, but official documents are pretty good evidence.

country, leave any stronghold in his rear, he becomes dispirited in future encounters. If the obstacles that perpetually occur on the route are not removed, a student becomes appalled when a fresh one occurs, and thus he tacitly admits that there are things he *cannot* understand. If the young mind is in the habit of mastering *every* difficulty, it acquires a confidence and a method of investigation infinitely precious in future pursuits. Hence the saying, "*Timeo hominem unius libri.*"

There remains one more exercise to mention, viz: that of elocution or declamation. There is no want of attention to this department in most of the colleges in this country. To inspire young men with confidence they are encouraged to appear in public, and their performances are usually very creditable. Europeans are astonished at the ease and self-possession of our youth on such occasions.

Elocution, too, as a class exercise is very useful, wherein passages of the author, learned by heart, are declaimed. This gives the professor an opportunity to correct on the spot any defects he may have noticed. But whether in public or private, it is always an exercise, and ought to be held as part of the programme of studies.

I can not but agree with Whately (Rhet., Part iv, Ch. 4) that the recitation of the speeches of celebrated orators is a custom more productive of harm than good. He observes: "The sentiments are not the speaker's own, nor the character he assumes, and neither the place, the occasion or the audience have anything to do with the substance of what is said." One must be a good actor, or have a lively imagination, not to travesty the words he is uttering.

This inconvenience would not arise were the speaker pronouncing his own composition in support of any question. In that case there would be less danger of falling into a sing-song tune, or adopting an unnatural delivery. The public exhibitions, or the semi-public ones, whether discourses or debates, should be kept subordinate to the main purpose, i. e. a practical application of the precepts and instruction received. Vague generalities, sweeping assertions, wholesale denunciations, the arraignment of entire people's summary decisions of disputed points and principles, dictation to rulers of the policy to be pursued in actual emergencies—immense fields of discussion opened; all these ill

become one who has hardly had time to read any other history than his abridgment, and whose mind is not yet ripe enough to grasp the full extent of the issues and questions evoked. "*Sumite neciteriam vestris qui scribitis æquam*," &c. There is a manifest want of propriety in any one deciding confidently on a subject he has only partially studied; or in attempting to generalize, except after a full review of the facts. It must not be taken for granted that precepts are laid down to no purpose, and that as soon as one recounts his Pegasus, he is to be emancipated from their restraint. In that case rules would be vicious, for if no allowance were made by them for a healthy flight of the imagination, or if, in any way, the mind were fettered thereby, "they would be more honored in the breach than in the observance." A skilful soldier is not trammelled by his knowledge of strategy, nor an architect by the laws laid down for symmetry. Any degree of perfection is attainable and more easily attained by a strict adherence to the precepts. I need not review the advantages claimed for this system of study; in general, I believe it exercises a greater number of the faculties than any other, and is far more thorough, insuring a safer method and direction in future researches.* In view of the vast extension of sciences, the whole lives of eminent men being devoted to specialities, one can not, in a college curriculum, do more than obtain a limited amount of knowledge. It is of more consequence to acquire a rigid process of investigation than to store the mind with isolated facts.

The arrangement of all these exercises into the daily recitations is an affair of detail into which I shall not enter. Now, the condition of things may be such as not to permit a full trial for such a course of studies. There may be obstacles on the part of the teacher, obstacles on the part of the scholar, obstacles from antagonistic customs. Facts, and the long experience of many conversant with these matters, warrant me in affirming that the closer the plan is followed, the greater will be the profit.

† In England, as appears from the report alluded to, frequent repetitions, competitions, exercises of memory, Latin verse, themes, &c., are still in use, and, as the teacher's part of the programme,

* If the classics be thus tested to the full extent of their working power, there will be no complaints of inadequate results, of time and labor lost, of observation grown sluggish, or activity cramped, and consequently no need of proposed substitutes.

† Examples are taken from the two European nations, with which we are in nearest relation.

though light in itself, is often performed in a perfunctory manner, still English scholarship is still far above par.

In France the lyceums which have, under the direction of the University, the monopoly of education, and in which the positive sciences compose the chief branches, the number of these exercises in use is less, and the average attainment therefore falls below that of the English Universities. It can be shown, I think, that the standard of taste in the *vernacular* has risen or fallen according to the strictness or laxity with which this method of teaching the classics has been followed. Taking again England and France as cases to the point, let us see if facts do not confirm this assertion. Hallam, in speaking of literary history, at the commencement of the seventeenth century (about the epoch in our theory, when the old system was abandoned), observes, Vol. 2, Ch. 1, in regard to the Latin. "There was a prevalence of bad taste even among those who had the pretensions to be reckoned scholars. Lippius had set the example of abandoning the purest models, and his followers had less sense and taste than himself. They sought obsolete terms; they affected pointed sentences and a studied conciseness of period, which made their style altogether dry and jejune. The Universities, and even the Gymnasia or schools of Germany, grew negligent of all the beauties of language. Latin itself was acquired in a slovenly manner, by the help of modern books, which spared the pains of acquiring any subsidiary knowledge of antiquity, and this neglect of the ancient writers in education caused even eminent scholars to write ill." This rejection of the ancient models was followed by a preference for the French (page 405), and mark the effect in the English language. "The pedantry of unauthorized Latinizing, the affectation of singular and not generally intelligible words from other sources, the love of quaint phrases, strange analogies and ambitious efforts and antithesis were the consequences. In our contemporary writers (1650 to 1700), with little exception there is a tone not so much of provincialism, or even of what is called the language of the common people, but of one much worse—the dregs of vulgar ribaldry, which a gentleman must clear from his conversation before he can assert that name." (Vol. 2, page 409.) In France the innovation on the mode of teaching Latin was made later, and was followed by a corresponding decline of good taste in the use of the French language. Rollin,

his "Traité des Etudes," 1726, signalizes and deplores the abasement of classical studies, and the mode of teaching them recently adopted. The custom of speaking Latin existed no longer in the University of Paris, and Rollin wished to restore it. His words have already been cited at the commencement of this paper. Now please observe the fruits produced. Voltaire, no mean judge in literary matters, thus writes in 1756: "It seems to me that people now-a-days speak only in enigmas. Nothing is simple—all is affected; nature is followed nowhere, and people have the misfortune of wishing to do better than our masters." "You will see," he adds, "that our great writers, Fenelon, Bossuet, Racine, Despreaux (and he might have added Moliere, who were all educated on the old plan), these always employed the *proper word* in their writings," &c. The question occurs whether, now that the Latin is no longer employed as the usual medium of communication, it would not be better to use such a method of teaching it as in conformity to the changed condition of things. This objection is a begging of the question. It supposes other more useful methods, and that the one considered does not make allowance for actual requirements. All the arguments in favor of having a main branch in an educational course, and of making that main branch the classics, militate equally in favor of giving them the prominence in practice as in theory, if the good anticipated is to be derived. Better adopt some other cardinal branch, and make at once Latin an accessory, than to make it the basis only in name. "Drink deep or taste not." As one language well known is worth more than a smattering of half a dozen, so a principal study, well pursued, is more useful than an abundance of superficial information without order and coherency.

L'Ecole Polytechnique, West Point, &c., confer thorough instruction in their line, because they faithfully adhere to the plan of subordinating all their instruction to one principal study. If there are more beneficial results in teaching the Latin in one way than in another, partially applied, the partial results must be greater.

One does not learn the rules of arithmetic in one fashion, when he is to learn the calculus, and in another when he does not intend to learn the calculus. Besides, it is not true that the Latin has ceased to be the means of communication among the learned.

I venture to say that a book of history or science, in Latin, would be, at this day, more universally read, and, if well written, more vividly appreciated than if published in English, French or Italian.

It may be, and has been, objected that if so much time be devoted to the classics, all the other branches would suffer, and provision would not be made for modern science. The objection is somewhat like the last. To it I answer that time can be found for what is essential to be known in these matters, the amount of time varying, of course, according to the various exigencies. Discretion only can regulate things, so that, while making all allowances for present needs, no detriment be offered to the principal branch. Hear how this question is met in two other countries. In England one is struck with the tenacity displayed by the heads of public schools (in their examinations before the Royal Commissioners, 1864), and by the commissioners themselves, for the maintenance of the classics in all their integrity. This bias, so decided and so general, can only spring from the persuasion of the great utility resulting from their retention. This was corroborated yesterday, by a learned gentleman who addressed you, who asserted, from his positive knowledge, that on one point all educators in Great Britain were unanimous, and that was on the retention of the classics as the chief branch in the schools. An important witness on this chapter is M. Thiers, who remarks on a bill in regard to secondary instruction: "Without desiring," says he, "to take children from the study of antiquity, there are some persons who would wish, concurrently with ancient knowledge, to give them a little more of the modern. It is with this end that they have added to the instruction adopted in the time of Rollin, more history, mathematics and natural sciences. Experience is before us to show that up to the present the experiment has not been successful.

"We have consulted the most learned professors, and they all say that now-a-days people want to cram too much knowledge at a time into the heads of children, i. e. young people. Their mind evidently bends under the load, and they do not learn at all, or else they forget. It would be better to retrench than add to secondary instruction, and in every case it should not be, in our opinion at least, the study of the ancient languages which should be retrenched." These few words are the recapitulation of the

experience and observation of the great numbers for whom he speaks. In the multiplication of these accessory branches, there is need of remembering the old proverb, "*Qui trop embrasse mal étreint.*" If any exception were made, it should be in favor of mathematics. Having taught that branch and physics or natural philosophy for several years, I would not speak in their disparagement.

I speak with diffidence on this subject, in presence of so many learned gentlemen, and notably of Professor Davies, now before me, who has won the lasting esteem and gratitude of his country by his contributions to science.*

Plato would not permit any one to enter his *sanctum* unless he had studied mathematics, thus showing how important he considered it, as a preparation for philosophy. My little experience confirmed the general opinion, viz: that the ability to comprehend the abstract and rigid proofs of mathematics, though varying according to the degree of precocity of individuals, is usually of comparatively late growth. What would task the mind to the utmost at fifteen may be acquired without effort at seventeen or nineteen. Hence useless labor and premature exertions. If a boy has well grounded himself in the rules of arithmetic and algebra, with some geometry and plane trigonometry, and does not hesitate at the purely algebraical operations, it will never be too late to make a complete course of mathematics. As the mind becomes more mature, it takes in easier these kinds of demonstrations; the speculative and abstract become, as it were, more natural. In England it has been remarked that students from the universities have never taken the prizes for the first year in those examinations where mathematics are a speciality; but they have done so in subsequent years. At our West Point several cases occur to me of persons, graduates of colleges, who would not, perhaps, have attained as high a standing without the previous training of the classics. There is then, to resume this difference, that classics, if neglected in youth, cannot be afterwards acquired, and mathematics, with the restrictions mentioned, may be postponed. If one has not had in youth the advantage of a classical education, the liberal professions are hardly said to be

* All these positions, in fact the method advocated, and its relation to mathematics, &c., were warmly endorsed subsequently by Professor Davies.

open to him; at all events, there is always a want felt by himself and perceived by others.

The purpose of a university education is not to "compass the cycle of knowledge," but to prepare for every career, and to afford a starting point for perfection in any department. I hold contrary to Sir William Hamilton, who has said many hard things, about mathematics (*Discussions on philosophy and literature passim*), that the powers of generalization *are* cultivated by this study. It may be that they do not cultivate a large number of the faculties, that they habituate the mind to expect the same certainty in other matters, &c. With his strictures is mixed some truth; for instance, Hamilton observes that the art of reasoning *rightly* is assuredly not to be taught by a process in which there is no reasoning wrongly.

He believes, with Coleridge, "that it is a great mistake to suppose geometry any substitute for logic;" but to come to the point I am aiming at, he seems to have reason on his side, in saying "that mathematics afford us no assistance (i. e., I would say not much) in conquering the difficulties or avoiding the dangers which we encounter in the great field of probabilities, wherein we live and move." (P. 284.)

I have all along laid stress on liberal studies, inasmuch as they afford the implements of thought, the weights and measures and scales, with a certain dexterity in their use. It is not the intention proposed in education to make a word artist, a mere stringer of pretty speeches. One must not only know how to express himself accurately, but to reason strictly. To teach this latter is the province of logic and metaphysics.

We must, by the aid of reason, determine the functions of reason itself, its strength and weakness, its power and limits. Proceeding by the infallible test of the syllogism, logic gives a means of unveiling sophistry and of developing, to its highest power, that faculty of which man is so proud. In a word, logic, rightly studied, not only enables us to detect error, but also to discover truth and disclose the mechanism by which that discovery is made, *i. e.*, in analyzing the very motives of certainty. Now, of what use to have weights or implements, if we have nothing to weigh or work upon? Philosophy furnishes that subject matter; this study which is the crowning point of an education. If the *ancients* had cause to esteem it so highly, and lavish such praises

upon the shadow of it they possessed, of what importance must it be, perfected under the pure light and benign auspices of christianity? The philosophy to which I allude, does not consist of a set of dreamy speculations or useless abstractions, but a practical knowledge of those things which man can acquire with the sole aid of reason. The student has already been taught by logic how to investigate the truth. Proceeding then in the research, he discovers what can be known of man, of his future, of being in general, of the visible world, and of God and His attributes.

Judging sanely of what he has discovered, he considers what are the relations which he holds to beings other than himself. Hence come positive duties to his fellow man, to society, to his family, to his Creator. Taking up the question of revelation, he discusses the possibility of it, *i. e.*, whether God can reveal any other facts, or impose any other duties than those reason demonstrates to exist, he examines the actual fact (of such circumstances and revelation) from the same point of view. Accepting it as a reality, a man becomes conscious that the noblest use he can make of his faculties is to employ them, not exactly in digging wealth from the bowels of the earth, nor in developing its physical resources, nor in increasing the comforts of life (though these aims are not precluded), but in solving the great problems of existence, and in emerging from the labyrinth of vagaries and doubt into which we have been cast by reason's abuse. This study is usually made in Latin, the terminology of which is already defined and well known, and which partakes more nearly of the universality and immutability of the principles it transmits. Whoever goes through such a course, is not set adrift upon the ocean of life without a chart or compass, but is furnished with a sure direction from within as well as from without.

We have need of this philosophy as much (if not more) now than at any previous epoch.

There is an imperious necessity of progressing in the moral order, to keep pace with the development of material strength, if we wish to avoid immense disasters—two propositions which, only incidentally announced, suggest more than they express. At all events, sound morality based on reason, is a solid and indispensable support of the social fabric.

The mind, too, naturally yearns after exact and practical knowledge, both in its form and in its substance. An evidence of this

I find in a remarkable paper read before this Convocation in 1863 or 1864, by Professor Lewis, of Union College. Here is an extract bearing upon my entire thesis:

“A melancholy experience of errors, both social and moral and religious, may yet convince us that *words* are very important things, and that the analysis of words and propositions may be far more useful and practical, at certain times, than that of earths and alkalis.

“He who would reduce to their elemental ideas, and then clearly define such words as, nature, supernatural, law, development, idea, life, organic, power, force, faculty, government, state, church, morality, religion, duty, crime, punishment, reformation, liberty, will, necessity, cause, effect, reason, motive, right as an adjective, right as a noun, with many other similar words that now pass about like defaced and worn out coins; he who would stamp them all anew, so as bring out their true and ancient images, the same and immutable under all abuse, making them so clear to the popular mind, that every counterfeit would be instantly detected; such a man, we say, would confer a favor on our age of more value than the most splendid discoveries of modern science.”

At this late day, it is not to be supposed that any one will make such a discovery, nor the discovery as to the best mode of instruction, for the simple reason that they have been made already. It is perfectly within the competence, nay, it is the very business of a sound education, including logic and philosophy, to afford solid and satisfactory definitions to these terms, and solutions to the really great questions they involve. But, in order to gain adhesion, mankind being constituted as it is, such definitions or solutions must be confirmed by the condensed wisdom of the ancients, approved by the strongest dictates of reason, and founded on the immutable basis of revelation.

* THE WHOLE WORK OF THE ACADEMIES.

BY GEORGE W. JONES, A. M.,

Principal of Delaware Literary Institute.

The academies of New York labor under great and increasing difficulties. The *great* difficulty is the variety and amount of work required of our teachers through the multiplicity of studies pursued.

This is the first point; and

The second, which is, perhaps, the root of the matter, is, the want of system and of economy in the whole educational plan of the State, and the consequent waste of our time and strength.

The third point I make is, the undue attention the few young men, who are fitting for college, receive, to the exclusion and great detriment of that much larger number who do not intend to enter any college; and

Fourthly; I desire to examine the course of preparation now required at our hands by the colleges, to see whether some changes cannot be made, to the relief of the academies and our mutual benefit.

Lastly, to enquire what course of study, if any, the academies can and may adopt, which shall relieve teachers, but not be less profitable, at least, than the present arrangements; in short, to bring up for discussion, THE WHOLE WORK OF THE ACADEMIES OF NEW YORK.

At present we must fit boys for college, and have a course of study for them; we teach the higher mathematics and natural sciences to those who desire, and arrange a course of study for them; we compete with the commercial colleges, and offer equal facilities to our scholars in those branches; we have a normal class; teach drawing and painting, teach music, teach ancient and modern languages; teach engineering, history, finance and law; teach elocution, the calculus, spelling, and half a dozen ologies; teach, or offer to teach, everything; teach twice as many hours per day as our college professors, and ten times as great a variety

* This paper was not actually read at the Convocation, the author being absent at the time first assigned to it, and the pressure of business finally preventing its presentation, though re-announced. It has, however, been thought best to include it in the published Proceedings, and for this purpose a copy has been solicited and furnished.

of subjects. The academies are indeed small universities. The burden of this varied labor is great and terrible, and increases yearly as new demands are made upon us.

A part of this trouble is doubtless due to the teachers themselves; for, in their desire for patronage, they permit scholars to be choosers, too much, and form such classes as are thus demanded. We may, perhaps, reduce our labors somewhat, by ourselves dictating their work. But, unavoidably, after this reduction, there is and must be a wide range of studies taught every term in every academy. We cannot increase the number of our teachers; their compensation is too small now. We cannot raise our rates of charge; for many, even now, are kept back by the expense. Shall we divide up the work, leaving to the commercial colleges all that pertains to business; to the ladies' seminaries the graduation, and fitting for graduation, of all our ambitious girls? Shall we have a few schools which, like Andover, fit boys for college, and do little else? Shall we send to Troy every young man who wishes to study chemistry or surveying? Shall we leave to the normal schools the work of preparing teachers? Doubtless they would all receive better instruction than now, but the expense would be beyond the means of most, and the enterprise too great for their undertaking. This division of labor is indeed more feasible now, with our railroad facilities, than formerly, and I know not but it is the true relief; nor do I object, if no better plan can be devised.

With the present want of system, where every academy teaches everything to small classes, there is great waste of time and very imperfect results. Twenty scholars may be better taught than one; there will be more spirit and better preparation on the part of both scholars and teacher. What is worse, the time for recitation is cut down to the shortest, and for preparation on the part of the teacher, often to nothing. But, indeed, if schools are distant and special, the expense is too great, the distance from home too great, and attendance is thereby discouraged. Many now are induced to make the beginning, and, the beginning made, are encouraged to go on, to secure a liberal education, simply because good schools are of easy access.

I propose, then, to enquire whether there is not some one general course of study which may, with only slight modifications, embrace all the scholars of an academy, as well those who fit for

college as others; for the waste of labor subsists not alone between the academies, but also between the academies and colleges: for we are teaching constantly the same things as they, in large measure, in mathematics, natural science, history and metaphysics. I hope to show that this waste, at least, can be saved, and the other greatly reduced.

One word first, in regard to the course of study now required in fitting boys for college. With the exception of the mathematics and a little else, it is wholly divorced from the studies of the other scholars of the academy. It is mostly Latin and Greek, in which other scholars have little interest, and do not join. For these few then—scarce a dozen—for these few, the time of one teacher is demanded and given—often the best teacher in the school—with great injustice and great detriment to all the rest, who not only suffer from neglect, but actually pay a large part of this classical teacher's salary, the receipts from classical scholars not being sufficient therefor. And the classical scholars, on the other hand, not being required to do so, urged on to enter college at the earliest time, and further, well knowing that they must in college study algebra, geometry, trigonometry, chemistry, history, and other studies, which are being pursued by their mates in the academy, and which they might pursue there without extra expense or trouble to the academy, and with great gain to themselves, yet they neglect them.

I hope to show, before I have done, that the course of study I propose, would be best for those who are fitting for college, and best for the colleges, as well as affording great relief to the academies.

I propose, then, to drop the Greek out of the preparatory course; that would save us half a man's labor. I think Principal Gardner proposed this change three years ago. He urged that the study of Greek would lose nothing thereby, for in a short time, under the efficient instruction the colleges might give, with the students' better training and greater strength, they would make up for that deficiency. I will go one step further, and urge upon the colleges, in their own course of study, the desirableness of making the Greek optional, and permitting in its place the study of modern languages, history or natural science. I believe it would give equally good mental training, and increase the number of students at college; for many who are anxious for

better culture, are, I fear, kept back by the thought that they must work so many years for what can be of so little use.

I do not mean to decry classical study. I understand the arguments in its favor. It is a vigorous and healthy mental gymnastic; it is the only way to get a thorough knowledge of one of the world's great ages. It gives power of expression; it teaches us the meaning of our own words, and the principles of our own language; it cultivates taste and the finer parts of man's nature; it introduces us to the great family of scholars. I understand this, and I propose to teach one dead language, the Latin, and urge its more general study, and from this one to gather most of the fruit claimed for both, and I would have the other also for those who desire it; for those who are to be our religious instructors I urge its still more thorough study, omitting, perhaps, some other things to give it place. But why should all be compelled to pursue the same course? Why should the college be little else than a preparatory theological school? I believe that many are kept out of college by their unwillingness to spend so many years in the gymnasium when there is real work; by their unwillingness to spend so many years of life's prime studying an exploded heathen mythology, when the works of the living God are spread out before them, from whose study the college in good part debars them; by their unwillingness to spend their young lives searching darkly among the bones of dead languages for treasures; when they can point to so many men in our own land, eminent for culture, refinement, ripe scholarship, sound judgment and rare ability, who know naught of this old learning.

I urge, then, that it is unjust to require all who go to college to study Greek more than Hebrew, and I urge that, in any case, the academies should be relieved from teaching it. This is the first change.

Again, I follow Principal Gardner, and I believe Principal Williams also, in urging that the colleges should require, for entrance, a considerable knowledge of natural science, the elements of physical geography, botany, natural philosophy and chemistry; and of mathematics, the whole of algebra, geometry and trigonometry, and of history and drawing a considerable knowledge. I urge this because the academies already teach these things to *their other scholars*, and can add a few more to classes already

formed, without additional trouble and expense, indeed, with positive advantage; for they are the more scholarly and ambitious boys who will go to college, and they add life and interest to any class they join, particularly if spurred up by a vigorous examination ahead. I urge it again, because, if one fits for college and then does not go, which is so often the case, he really has a good and useful education, of far more account to him than the little Greek he might have learned. I urge it because I do not wish the requirements of the entrance examination made less. I urge it because I believe the academies can do this work just as well as the colleges—I mean the elementary instruction—and that those learned professors would find a more intelligent audience of students, to whom, with greater pleasure or greater profit to all, they might propound the grander truths of science, instead, as now, of teaching details, or, neglecting these, speaking to those who understand them not. I urge it because I believe the trio, mathematics, natural science and language, affords more variety than mathematics, Latin and Greek, or Latin and Greek alone—more that is interesting to the young, whence a greater number of persons will begin a course of liberal culture, more work will be accomplished in the same time by the student, a more harmonious development of the faculties will ensue. I urge it because youth is the time when details are easiest acquired, particularly with regard to things which they can see and feel, abstraction coming later, and, therefore, it seems the natural method of education.

I add history, because one should early begin to read of the world's great movements, and study the character of its good and wise men. I add drawing, both for its usefulness and its refining influence.

All these things the academies can teach, do teach now, and will teach well if they have time.

But, indeed, the most important work of the academies of New York is not in the preparation of a few hundreds for college. It is with the many thousands who think not at all of college: young men and women who complete their education, so far as school is concerned, at the academies; our intelligent farmers, mechanics, teachers, and most of our professional men, who do not go to college, but from the academy to the professional school or into the active business of life; men of action, who are to con-

trol the country, make and execute its laws, develop its wealth, and support its institutions; women who will be fit companions for such men. I insist that these shall have the first attention, the course of study be arranged for them, and the strength of the best teachers spent with them. Am I wrong?

What, then, is the best course of study, adapted alike to the wants of all the scholars of the academy? I know nothing better than what I have already proposed. Mathematics is king of sciences, in that it teaches man to reason, and drills him in reasoning, wherein men differ most from each other, and most surpass the brute. Dr. Barrow says: "Mathematics serve to ennerve the mind to a constant dilligence in study, to undergo the trouble of an attentive meditation, and cheerfully contend with such difficulties as lie in the way. They wholly deliver us from credulous simplicity, most strongly fortify us against the variety of scepticism, effectually restrain us from rash presumption, most easily incline us to a due assent, perfectly subjugate us to the government and weight of reason, and inspire us with a resolution to wrestle against the imperious tyranny of false prejudices. If the fancy is unsteady and fluctuating, it is, as it were, poised by this balance and steadied by this anchor. If the wit is blunt, it is sharpened by this whetstone; if it is luxuriant, it is pruned by this knife; if it is headstrong, it is restrained by this bridle, and if it is dull, it is roused by this spur. Lord Bacon says: "In the pure mathematics I can report no deficiencies, except it be that men do not sufficiently understand the excellent use of the pure mathematics in that they do cure many of the infirmities of the wit and the faculties intellectual; for if the wit be too dull, they sharpen it; if too wandering, they fix it; if too inherent in the flesh, they abstract it."

Again, mathematics is servant of all sciences, for only by it are their highest results yielded. It is an inexhaustible arsenal, whence all draw weapons; an inexhaustible fountain, whence all draw strength. Let mathematics stand first.

I put history next, then natural science; or natural science, then history. I know not which should stand highest, either in time or importance. They are the two great fountains of thought, the one in the material world, the other in the mental and spiritual. The one deals with matter; teaches us its laws and its beauties and its uses; shows us the road to comfort, to

wealth and to reverence; the other deals with men—God's highest workmanship—shows us his follies and his virtues; presents bright examples for us to follow; points out the reef that we must shun; prepares us for our duties as citizens; shows us our littleness and our greatness. Let the history contain criticisms of government and society, analysis of character, the principles and motives of action, a history of peace as well as war, of thought as well as action. Let the natural science be taught in the field, the laboratory and the workshop.

One's own language is of course to be studied with care, and some foreign tongue, if possible; Latin first, for general culture. But he who would read science deeply must know French, and he who would have great scholarship can not safely neglect German. I doubt whether the academies should teach both these languages; but the colleges should teach them, certainly rather than Greek, for they are always of great use aside from the mental training, and Greek can scarce be called so. To these noble studies I add bookkeeping, political economy and the simpler principles of government and law, with all that pertains to business and to our political duties, and this for boys and girls alike, believing that all need this knowledge, and that women will not cease their dependence so long as their education is so frivolous. I add drawing and music; and last, not least, the history, geography and antiquities of the Bible, together with the evidences of Christianity in nature and revelation, and Christian ethics.

I would then omit the Greek in the academies, and make it optional in college; add the elements of natural science, all the lower mathematics, and a large knowledge of history, drawing, and perhaps the French, to the requirements of the entering examination at college, and thus arrange one course of study for all the students of the academy.

I claim for the academies less labor on the part of the teachers, from the fewer classes, larger and more interesting classes, better instruction and more thorough work. I claim for the colleges a body of students better trained in the simple elements, and better able to profit by their higher instruction. I claim a saving for all our teachers of that great waste of time and strength.

A KNOWLEDGE OF THE HOLY SCRIPTURES AN INDISPENSABLE ELEMENT OF LIBERAL EDU- CATION.

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That the Bible should have a place in all our schools has been urged on the ground that we are a christian nation. On the other side it has been maintained that the state knows no religion—not even a God—and that any recognition of either would be a violation of religious, or, as it might better be said, irreligious liberty. Although not intending to go far into that argument here, it would not be difficult, we think, to show that nothing of predominant social interest, whether belonging to the inner or the outer life of a people, can be harmlessly ignored, either by the legislature or the school. As well attempt thus to ignore the English language, and give it no manner of preference, because there are those among us who speak other tongues, as to affect a like neutrality between the predominant christianity of the land and the small minority of unbelievers. Such neutrality, even if it were possible, would be unjust. But it is impossible. “He that is not for, is against.” There is no neutrality here—there can be no neutrality. The attempt to be *unchristian* becomes simply *antichristian*; in the effort to be wholly unsectarian, there is a favoring of the worst sect of all. This has nothing to do with the cry of church and state. It is simply the recognition or denial of what exists, and whose existence, or non-existence, must have a most important influence, not only upon the morals, but upon the thinking, the literature, the whole inner life, and, through that, upon the whole outer life of a people. Thus neutrality towards christianity and the scriptures is simply impossible. The opposition, though negative in form, becomes positive hostility. It is a creating, in the very start, of a bias to unbelief. Even the youngest child cannot fail to understand its tendency. The Bible, in this clamor, gets the aspect of a dangerous book. It is opposed to freedom and the conscience. The state is jealous of it. Who can estimate the mischief of this sceptical bias so early given, or of *this moral taint* communicated to the soul in its earliest thinking?

But we cannot dwell on this. There is another view that may be taken, which does not so directly assail the opposite prejudice, and is more in keeping with our position as a purely intellectual and educational association. It is this: The knowledge of the scriptures, which are the ground of our religion, is an essential part of true education in its literary and intellectual aspect. It is a branch of knowledge too high in its claims, whether true or false, too wide in its bearings, whether historical or religious, too deep in its intimate connection with all that is deepest in our nature, to be ignored in any scheme of education whether liberal or restricted. In other words, one cannot be called a truly educated man, who is ignorant of the Bible. Whatever else he may lay claim to; whatever may be his position in society, or in the nation,—whether he lifts his head in the senate, or assumes distinction at the bar, or plays the orator and guide of the people; if he is not familiar with the scriptures, if he is a stranger to their history, if he knows little or nothing of the wide and peculiar literature it has created in the world,—he is an uneducated man, an ill-informed man,—he is an ignorant man—a *very* ignorant man. He lacks acquaintance with one of the most important constituents of human thought; he is a child, yes, inferior to some children, in respect to a knowledge which has done more than all other intellectual causes to affect the thinking of the race, and to deflect the spiritual course of the world's history. He pretend to teach his fellow men, to be their political or social guide, who knows nothing of this vast underlying and controlling power! The idea is preposterous.

And yet how many are in this very condition! How frivolous and inane, in many of its departments, is becoming our literature on account of this ignorance and this ignoring! We talk of the prejudices and the superstitions of the seventeenth century. Better have them all again, if they would bring with them the vigor, the clearness, and the profundity which the literature of those times derived from the universal acknowledgment and universal study of the Holy Scriptures.

And not in the world alone do we trace this great defect. Whatever may be the cause, even in the church is there the want of a proper appreciation of the power of the scriptures. I mean their intellectual power, their thought-suggesting power. If clergymen everywhere studied the Bible and its literature as they

ought, they could not so overlook the rich treasures that might be brought out from its faithful and learned exposition. With this storehouse of things new and old, or old yet ever new, ever lying open before them, and studied by them as it should be studied, they could not be content with spinning sermons, as many of them do, out of their own cerebral webs, with nothing really drawn from the scriptures but the formality of the text. How much beating of the air might be saved, if, instead of *moral* this and *moral* that, and obligation, and missions of the age, and an everlasting talk about the power of the pulpit, they should bring their souls into closest contact with a psalm of David, or a chapter of Paul, until every word and every figure stood out in all their rich suggestiveness, thought breeding thought in an ever expanding series,—thus anchored firmly on a thorough knowledge of the *letter*, and thence safely exploring the inexhaustible richness of the *spirit*. How great the oversight, when any fail to see that here are the true materials for preaching, and that this alone is, in fact, that veritable preaching of the Word for which they claim to be divinely commissioned. Do they want inspiration? are they at a loss for subjects and ideas? let them then without fear of the charge of plagiarism draw copiously from this fountain so inexhaustible in its depth and its diversity. There is a complaint of too little variety in our modern preaching. It is often a mere hostile cavil, but the cure for it is not what that cavilling spirit would indicate. Such variety is not to be found by descending into the arena of the world, as some would advise, but by bringing the world up to the Bible, ascending into the higher region of scriptural thought, and spreading out its sublime wealth of idea in all its suggestive relations to human thinking and human history.

The Bible in its intellectual aspect,—the mental quickening that comes from the study of the scriptures, whether as exemplified in an individual or in an age; it is this on which we are tempted to dwell. It is yet to be seen whether minds of the highest order can be produced without it. Had there been no higher or stronger influence at work than what is now called Baconianism, it may be questioned whether it ever would have produced Bacon himself. Underneath all his thinking, as may in truth be said of all the great minds of that remarkable age, there lay this unearthly *thought*, this rich spiritual suggestiveness of the scriptures. With

What affection do they speak of it, not in the platitudes of a modern platform Bible patronizing, but with a deep feeling of its intellectual as well as its religious worth. It was not with Bacon a mere skeleton of a creed which had come down to him from his ancestors, and which he was not yet fully prepared to shake off. The thought pervades all his works. Everywhere, in a spirit of deepest reverence, and of devout affection, does he thus speak of the christian revelation as the foundation, the crown, and the end of all other knowledge. This could be proved abundantly from his writings, but in his famous confession of faith we have the evidence of the fact that Bacon's intellectual greatness had its root in this source, and that all his rich thinking on the *works* of God received a higher stamp of grandeur from the constant impression of what he so often, and so reverently, and so affectionately, styles his *word*.

The highest genius has ever recognized the Bible as an intellectual sustaining power. It has been the life of modern poetry. Even the dark Byronic school derived its most vigorous thought from its antagonism. It would be easy to show that neither Byron nor Shelley could have written as they did, had it not been for ideas which the world never would have had without the Bible. There is no need of citing Milton and his immortal works; but it is not too much to say, that, without the scriptures, we should have had no Shakespeare. He may not have been personally devout, yet he felt this higher influence of the age around him, and he wrote as he surely would not have written, had the predominant guides of thought at that time been godless anti-biblical thinkers like Spenser, Comte, and Mill. Compare Scott with Dickens. Concede to the latter all that is claimed for him in the farcical, and in some aspects of the pathetic, yet what a lack of the higher knowledge of human nature do his caricatures betray as compared with the profound portraitures of the author of *Waverly*. Dickens knows nothing of the Bible; he is totally ignorant of its intrinsic wealth, and of the unearthly power that has ever marked its influence upon the world. Scott drew deeply from its intellectual, if not from its moral inspiration. He lived among a people who revered the Bible, whose history was full of it, whose social life was formed by it. Whether spiritually under its influence or not, he knew its spiritual power. He had the genius to perceive that there was something higher even than

genius in the scriptures,—that they contained world-ideas, a spiritual adaptedness to all diversities of souls and to all varieties of personal condition. We see this even in the pictures in which he is thought to have betrayed a hostility to certain forms of religious truth. Scott could portray the fierce enthusiast, or the gloomy fanatic, or the maddened antinomian zealot; for he knew something of the deep moral mystery exhibited in these characters, and the greatness inherent in the very ideas of which they were the perverse representatives. Dickens could only draw the absurd, snivelling hypocrite, canting ever, in season and out of season, as though his only motive were to show the world what a very foolish and absurd hypocrite he is. In all Dickens' novels it is ever the same, a man brought in simply to caricature religion, hypocritical without any reason, or without any ground, either in the worldly or religious nature of man, from which such a character could grow. He represents nothing. Even in what may seem their perversions of the 'religious life, how great the difference between these writers! The higher genius, Scott, versed in the scriptures, and in church history, paints for us that awful personage, Balfour of Burley. Dickens, more ignorant of the Bible than many a child in a Sunday school, attempts to make us laugh, but more often disgusts us with such wretched travesties as the red nosed shepherd in *Pickwick*. Any one who has read the works may pursue the contrast. The powerful limning in the one case, the utter failure in the other, come from just the difference in true scriptural knowledge on which we are dwelling. Still more do we see this in the more wholesome productions of Scott's genius. One who had not made the Bible a constant study, could never have produced such works as *Ivanhoe*, and *Rob Roy*, and *Old Mortality*, and the *Heart of Mid-Lothian*. And so also in the drawing of what may be called their strikingly bad characters. Dickens' *Quilps*, and *Ralph Nickleby*, and *Uriah Heaps*, are pure absurdities. They are so bad, so unnecessarily bad, so irrationally bad, and so evidently the mere artificial creatures whom the author chooses to blacken for no other reason than merely to set off the poor, tame, worthless virtues opposed to them, that the reader, if he has any sense of justice, finds himself on the side of these miserably distorted beings; he is led to feel for them as persons who have been unfairly treated by the writer,—their absurd depravity having no more reason for it, no more of a true

development out of any deep generic evil in humanity, than the contrasted virtues have from any real excellence either of nature or of grace. There is in it all, neither reason nor inspiration. On a par with the absurd depravity of the Quilps, and the Uriah Heaps, is the equally unmeaning and characterless goodness of his Cheerebles and David Copperfields.

It requires but little thinking to see what a blank there would be in our literature, if there could be abstracted from it all of power, of sentiment, or of idea that has come into it, directly or indirectly, from the scriptures. It is morally and spiritually wholesome, sometimes to let the mind float down the stream of such a hypothetical speculation. Does a shade of scepticism come over the soul, cure it by giving it for a season full and free indulgence. Let us see where we would land, or what we would have to come to, if we loose our grasp of the highest truth. That we may hold it thus the firmer in reality, let it go in imagination; let it all go. We are scriptureless, soulless, godless—*Ἄθεοι ἐν κόσμῳ*—"without God and without hope in the world." The Bible gone! What next? How groundless the idea that we could cut out the scriptures from the world's thought, and make no greater vacuity than the space they seem to occupy in some minds. Natural religion, too, is gone. Once that might have done as a help when men had not received the higher and the surer guide, but natural religion comes no more, lives no more, after the universal rejection of the scriptures. The idea of a life to come goes out in darkness. There may seem still to be left the dry notion of some great causality, but this is not God—*our* God—for prayer is gone, and providence is gone, and love, and justice, and holiness are gone. All ethics higher than the barest present utilitarianism, and that for want of something higher to hold it ever gravitating to a lower scale—all ideas of an eternal right, of an immutable truth higher than "things," or any "nature of things," the everlasting fair, the everlasting good—all gone with all their glorious visions. How immense the vacuum, even if we confine our thoughts to the loss suffered by religion, or what is immediately connected with religion. But the thoughtful imagination cannot stop here. Much more than this is to be thrown into the ever yawning abyss. Poetry goes next. Even the ancient poetry drew its most soul-inspiring ideas from perverted beliefs preserved in their stern purity only in the scriptures. The deepest and most

spiritual ideas of the Greek muse clustered around their doctrine of Nemesis, of moral retribution, of sin begetting sin as well as penalty, the doctrine of destiny in its ancient purer sense of divine justice, slow but sure. This was before christianity, though reflected from those earliest ideas out of which the later form of christianity arose. Revelation gone! Retribution, except as an unmeaning babble about mere physical consequences, is banished from the belief and from the conscience. It is forever parted from the realm of poetry, and what a troop of ideas goes out with it! The whole power of the epic and dramatic is lost. Religion and revelation must receive the homage of an age, or poetry goes out beyond recovery, all but the merest outward painting, even should that survive. Art next departs. Faith gone, the earthly and sensual predominant, the ideal must lose its hold upon the mind.

But what of science? Ah, here is certainty, it is boasted. This will remain, though all else were lost; the grounds of science are immutable; her progress is settled. But let us not be too confident, even here. There are ideas rooted in religion and nursed by revelation, for the want of which even science would lose its interest. It may do very well to enlarge upon the utilitarian ends of science in the preface to a scientific text book, whilst its higher aims are held in reserve for the contemplation of the choice esoteric few; it takes well to tell the utilitarian masses how very useful astronomy is in navigation, and how useful navigation is to commerce,—of what great practical value chemistry is in the analysis of poisons and the detection of bad brandy; but the scientific man himself, if he has any of its true spirit, knows very well that he has been moved by a higher and purer stimulus than this, and that, without this higher stimulus, science must fall at last wholly into the hands of the empiricist. However he may choose to please the public by the presentation of its earthly utilities, he knows that it must have, after all, something that connects it in its ultimate principles with the eternal and the divine, and that, without this, it cannot be strictly science,—something, in other words, which allies it to religion, giving to the spirit with which it is pursued the *a priori* reverence of faith, and the awe of devotion. Even in science, the theoretical, the contemplative, the ideal, is its highest end, its most alluring charm. Other men may keep up their din about facts, bare facts, but the philosophic man

of science knows that one cannot truly seek without an inspiring idea of something to be found, some notion, call it a priori or what you please, of *what* it is, and how it is to be found. There are those who are content with a lower position. To them, as to Herbert Spenser, there is nothing in the universe but force and motion, and motion is heat, and heat comes from the sun, and so the sun does all things. A late scientific lecturer becomes almost transported in the enunciation of these solar utilities. One might almost imagine it a chant of the ancient fire-worshippers. "He (the sun) grows the cotton, he spins the fibre, and weaves the web. The clover blossoms, and the scythe of the mower swings by the the same force. The sun digs the ores from our mines, he rolls the iron, he rivets the plates, he boils the water, he draws the train," and so on, and so on. All this, because the sun is heat, and heat is motion. The lecturer occupies a page with the rhapsody. He might just as well have occupied twenty pages; and as all physical causes are connected with all physical effects—since nothing would be just as it *is*, if everything had not been just what it *was*—he might just as well have selected any other force in the series of physical causation, and tied to it every effect in the Kosmos. He need not have stopped in these mere outward utilities. Indeed he does not. The sun is the moving power, too, in the spiritual world (if anything can be called spiritual), as well as in the more outwardly mechanical. "He forms the muscle," the lecturer proceeds; "he urges on the blood, he builds the brain." The great master of this philosophy goes farther, and says that thought, too, is *force and motion*, and so ideas themselves are dynamical powers. Following this, the lecturer might have presented a nearer instance of this sweeping generalization. He might have told his wondering audience that the very lecture they were hearing was a product of heat. The sun did it all. It was just such a quantity of caloric in his brain as the conductor, and in their brains as the receptive medium. It might all be measured by the deflections of the galvanometer, and by the thermo-electric pile. In other words, it was simply heat lecturing on heat, and heat, through a calorific process, receiving the lecture. Such thaumaturgic exhibitions as these, may strike awhile by reason of their novelty, and their curious extravagance, but they are scientifically suicidal in the end. The heat soon cools, and there is no other stimulus in them, no lofty enthusiasm,

no divinity. With nothing higher than such gross materializing appeals, and earthly utilities, science must, in the end, lose its greatest interest; even its utilitarian aims must become powerless to arouse the demanded mental effort, for the want of that higher stimulus, that higher utility, as we may call it, which is necessary to hold up all below.

The scriptures are not scientific or philosophical, but its great ideas of God, of the soul, of immortality, of retribution, are the life of poetry, of art, of æsthetics, of morals, and even of science itself. If we take religion in its purely intellectual aspect, its severance from science would be the loss to the latter of its highest sustaining *idea*. But more fatal still, it is the loss of hope in losing the thought of a personal immortality.

We live to think; not think to live;
This is the high utility, and thus we prove
The soul immortal as the truth itself.

What a pitiable spectacle, the unbelieving geologist digging for—fossils, with no higher belief than that one day he shall be a fossil himself! What matters it to such a man, whether the earth ~~has~~ existed ten thousand or ten million years? What matters it to him, who sees nothing spiritual in the universe, to know the distances and laws of the planets?

Quid tibi prodest
Aeris tentasse domos, animoque rotundum
Percurrisse polum,—morituro.

What good to thee
To have searched the vast aerial domes, and traversed
In thy soul the heaven's infinity—
Since thou must die?

For a moment the thin, transparent bubble floats upon the waves' summit in a stormy night; for a moment it reflects the shining hosts above; for a moment all the forms, all the laws, and all the ideas of the heavens are represented in that pellucid mirror. Imagine it to have one moment's consciousness of all this, before it is gone forever. Man is that bubble; science is that bubble, if there be not something higher than science, something surpassing knowledge to give to knowledge all its value. We need not teach what is called dogmatic theology, but surely some training of the mind to these higher connections in our thinking, some knowledge of the book on which they are chiefly grounded, should be regarded as indispensable in education.

Aside from the direct influence of the Bible on the world's thinking, and the world's literature, there is what may be called

The literature of the Bible itself. To say nothing now of the vast amount of commentary, exegesis, philological and archæological research, all more or less connected with the leading intellectual questions of every age, there is the literary history of the Bible as a whole, and in its various departments. If the true history of humanity be a history of what it has felt and thought, what an ignorant man is he who knows nothing of this, and whose ignorance leads him to treat it with contempt. Take the single department of biblical versions, made from very early periods, and how wide a field is presented! Translations from one language into another may be said to have begun with versions of the scriptures. The Greeks had no translations of the writings of other nations. The Romans, with the seeming exception of a few dramatic imitations, had no translations from the Greek. There was no demand for them. The interest of one nation in the thinking of another had not been aroused. There were no *world-ideas*, until these very peculiar writings began to be known. Even Homer, the most popular book of antiquity, had never had anything else than a Grecian dress. The same may be said of the Greek philosophy. With the exception of a very few fragments of Plato, which the learned curiosity of Cicero turned into Latin, no Greek author had ever been thus transferred, much less any Oriental book. The whole stimulus here came from the new interest created when "the law first went forth from Zion, and the word of the Lord from Jerusalem." When a few Jewish Rabbis, under the patronage of the Ptolemies, and aided by a few curious Greeks, sat down in Alexandria to make the earliest version of the Pentateuch, about a hundred years before Christ, then and there was the first beginning of a world literature. In this strange old book which Ptolemy had discovered, and which contained the history and law of a very strange and peculiar people, there were world-ideas, and they were found to be very ancient, dating away back to the very earliest historical times. There was a realization of Plato's dream, that afar off among the Barbarians, and coming down from the remote past, there might be concealed something higher and more divine than all Grecian philosophy, something that would concern all humanity. It was found in the promise to Abraham, "that in thee and in thy seed shall all the nations of the earth be blessed." Here was the book preserved by the most secluded people on earth, and yet it had a cosmopolitan

ness of thought with which there was nothing to be compared in Homer, or even in Plato himself. Away back in the preface, "in the beginning of the volume of the book," as the prophet says, there was the promise of a Great One to come, who was to crush the serpent's head, deliver man from the woes of sin and the thralldom of a mighty spiritual adversary. The shadows of it had been cast on all the mythologies of the world, but only in the Bible alone was found their explanation. In this very old prophecy lay the elements of the pure heroic. Every nation, in its wanderings, had carried with it something of the idea, but had perverted it, each in its own perversions. In one it was the warrior or hero knight; in another, the lawgiver, or the reformer; it was the strong man ridding the world of giants, hydras or robbers; or it was the wise man blessing the race with some useful discovery in agriculture or the arts. In all these was the shadowy form of that Great Deliverer, the El Gibbor (Isa. ix, 5), the Mighty One, or Mighty God, as the prophet calls him. The spiritual in its purity was preserved alone in the Jewish Messianic idea, as it grew brighter from age to age, until finally it stood forth fully revealed in the incarnate Son of the Highest. Here was the secret of the wonderful power of this book, when it first began to be made known to the world at large. It presented the bright image of one who was the "Desire of all nations." It contained the thought which, in some form, had aroused the longings of all earnest souls, and kept alive in the world every semblance of the heroic.

Hence it was that the Bible was the first book translated from one language into another. There arose a demand for it, such as there had never been for Homer, or Pindar, or Plato. It was found to be a world-book, and more than all others to contain what we have called world-ideas. The Greek version of the Septuagint was the first demand; but hardly a century had elapsed from the crucifixion of Christ, before both the Old and New Testaments were transferred to the two languages that then, next to the Greek, were most widely spoken in the civilized world. We mean the Latin and the Syriac. These were soon followed by the Coptic, the Armenian, and the Gothic,—the last a version whose fragments, still remaining, are of the deepest philological interest, as presenting the only specimens left of what may be called the *grandmother* of our own Saxon tongue in the third and fourth

centuries after Christ. The wild Goths, too, wanted these world-
ideas; and this new demand produced in the rude Gothic language
a literary phenomenon which had never been exhibited in the
rich and polished tongues of Greece and Rome, and in the golden
age of their national literature. Who would ever have thought
of turning the Greek poets into the Gothic or Thracian languages?
But now a new literary impulse had come upon the world. Shall
a man be called educated, we repeat it, who is totally ignorant
of the history of these great Bible versions, and the quickening
power they exerted on the world's thinking and the world's literature?

The place of the Bible in history. There can only be given here the barest leading ideas, presenting the form rather of a disjointed table of contents, than of a methodical argument. Each heading, however, suggests a mine of thought. The Bible the key to history. The Bible the great enigma of history. The Bible inexplicable, except as the veritable record of a supernatural revelation—in other words, a history of God's special dealings in the world, comprising not only the supernatural, but also all in nature and in the course of human events above the ordinary natural and ordinary historical. The Bible the most *human* of all books, and yet having no clue to its explanation as coming from any mere human development,—ever warring, in fact, with such development, whilst of all books lying nearest to the universal heart and universal thinking. The Bible the most exclusive, and at the same time the most catholic of books; most national in its form, yet most cosmopolitan in its spirit; most oriental in its dress, yet so perfectly adapted to the occidental mind; so very ancient, and yet so easily making its home among modern ideas; so idiomatic, yet so translatable into all earthly tongues, and carrying such a stream of philological richness into every speech that receives it,—giving a loftier grandeur to the Sanscrit and the German, whilst lifting up to an inconceivable moral elevation, the scant and lowly dialects of the Esquimaux and the New Zealander.

And so, too, is history an enigma without the Bible. It is the key to its abrupt breaks, like the *faults* that are found in the geological strata. The natural in the world's history more difficult to understand without the supernatural than with it. The Bible itself, in its constant deflection of the world's spiritual causation, as great a wonder, as great a miracle, as any deflection from

merely physical causation recorded in it; more marvelous, in fact, to a right thinking, inasmuch as it presents the question of a higher credibility than Hume ever thought of—the credibility of the reason, as distinguished from the vulgar incredibility of the sense, the higher wonder of the contemplative faculty, as distinguished from the mere strangeness of the sense. This *awe* of the reason, instead of rejecting, demands the supernatural somewhere. A physical miracle is opposed to the ordinary witnessing of experience, and so far arouses this sense incredulity. But there is something on the other side far more strange than this. A world in which God never *personally* appears,—a world without revelation, in which no voice ever comes from the higher sphere,—in which there is no communication between the finite rational and the infinite mind,—where the eternal never speaks to the temporal—this is opposed to that other credibility of which we have spoken. No deflection in nature, no miracle presented to the *sense*, can be as strange as such a dreary, hopeless, uninterrupted natural, to that wonder of the sense-transcending faculty by which man is related to the divine and becomes himself a supernatural being.

The Bible was a power in history before it was published to the world. It was so, as the objective point, we may say, towards which God was directing all the great movements of antiquity. For ages were these holy writings and this chosen people (chosen for the very purpose of being a world-people) shut up in the mountains of Judea, unknown to the Greek and Roman,—the last people that the philosophic historian of antiquity would have thought of, had the question been proposed, What power now in the world shall have the most influence on the ages to come? For their going forth all things were then preparing. The strong “he-goat” of Daniel’s vision, with the great horn between his eyes, was coming “swiftly from the West,” so “swiftly that he seemed not to touch the ground.” In other words, Alexander, in his conquests, was carrying into the East the Greek culture, Greek ideas, Greek literature, and, above all, the noble Greek language to be the medium of a New Revelation, requiring a greater copiousness, and more dialectic precision than was found in the old Shemitic. The latter, in its majestic brevity, was the language of authority, of a priori truth; its style was, *Thus saith the Lord*; *the one that succeeded* was the language of ideas, of didactic argu-

ment, of God reasoning with men,—a language now to be charged with new unearthly thought almost beyond its vast capacity to bear. The Grecian movement fulfilled its historical mission; and then comes that fourth beast, “dreadful and terrible and strong exceedingly,” with its “great iron teeth breaking in pieces and stamping” the nations under its feet. It was Roma, *the strong one*, as its name symbolises, the irresistible Roman power, with its ideas of law, of empire, of political science,—those very ideas that now enter so largely into our modern civilization. Whilst these were thus converging, there was taking place another movement, more silent and unobserved, but no less powerful in its effects upon the future destinies and future thinking of the world. It was the new migratory impulse, which, after the Babylonian exile, seems to have taken possession of the ancient chosen people. No theory of natural development can account for this, for it was in opposition to all their previous ways as well as previous training. From being the most exclusive and secluded, they now become the most wandering nation on the face of the earth. God sent them forth, as he had before dispersed the nations in the plain of Shinar, and in a few centuries the Jews were found everywhere, carrying their monotheistic ideas into every part of the vast οικουμένη, the habitable Roman world.

How strikingly is there symbolised the meeting of these mighty streams in the superscription which Pilate placed upon the cross of Christ! “And it was written over him, in letters of Greek, and Latin, and Hebrew, THIS IS THE KING OF THE JEWS.” The Roman governor merely meant to accommodate the crowd of Romans, Greeks, and Jews who had come out from that now cosmopolitan city of Jerusalem to view the strange spectacle. But *we* see now its higher significance. What a history is mirrored in that short inscription!—those three languages, representative of the three greatest controllers of human thought, thus meeting in the cross of Christ. Each of these influences had wrought, in its own way, and now are they brought together, henceforth to be the servants of a new spiritual power which had come in opposition to all natural development, deflecting all other forces, physical or historical, and converging them all to this one centre, and in this one direction.

Shall we talk of education without the Bible, when in the absence of it profane history cannot be understood? We will

endeavor to illustrate this by one very brief reference to a portion of the scriptures which, of all others, the unthinking reader is apt to neglect. Take, for example, the tenth chapter of Genesis. What an exceedingly dry and uninteresting document, some would say—what a dreary series of unpronounceable Shemitic proper names! What instruction can our children derive from this? Even some who profess to revere the Bible, find in this and similar portions of it, little or nothing of interest. Now, it is this despised chapter, with its series of hard names, that stands at the head of all history, and all ethnology. It may be said, more than anything else, to furnish the key to the great problem of the affinity of languages. The learned German rationalist, hostile as he is to all that is most spiritual in the Bible, is compelled to express his astonishment at this very ancient document, standing so far back in the world's first dawn, yet shedding such a light on the most important ethnological questions even of our own day. Had this hoary register been decyphered from an Egyptian temple, or been dug out of some Babylonian mound, or been found engraven on the great rock of Behistun, with such unquestionable marks of a very great antiquity, what a noise would it have occasioned in the learned and literary world! How many treatises would have been written upon it; how our reviews would have swarmed with articles upon it; what a large space it would have occupied in the transactions of philosophical and archæological societies. But here it lies in our neglected Bibles, this luminous Kohinoor, this hidden diamond of history, and, therefore, some would say, it should form no part of secular education.

It may be said that the scriptures are mainly occupied with the question, "Whither go we?" But there is another which now, more than at any other period, has been forced upon our attention. *Whence came we, and who are we?* Has the race been in existence six thousand, or six million years? Was man a new thing upon the earth, the full formed product of a supernatural power, or is he the result of ages of development, rising from the lowest organic life up to what we now call the human? Did he come out of the toadstool, carrying along with him nothing more than the developing life that was once in the toadstool, or was there a moment when the *primus homo* became such through the inspiration of God? It is the great anthropological question of *the age*. Now on this the scriptures have a most important his-

torical bearing, to say nothing of the supernatural witnessing, and the dogmatic interest. Viewed as the oldest record of the world, what a value it has! How utterly deficient is any system of education that ignores this, or does not give it a high place in the solution of such a problem! The next generation will be summoned to meet this question, as it was never met before, and they should be prepared for the issue. On the other side it is affirmed that man has been but a short time upon the earth, a very short time as compared with the age of the earth itself. The two great proofs are, the Bible account of the early races, and the speaking silence of profane history beyond a certain point, when all is still. The voice that seems to come from the empty chamber of the great pyramid proclaims that man is not a great deal older than the pyramids. It is about this time, or a little before, that he bursts into history, as it were, full grown. No long periods of unhistorical or even legendary savageism—no historical glimpse whatever of ages in which he was slowly rising above the animals with whom he had long been herding. There are no traces of any such semi-human being, no marks of any transition stage in which he was passing from the quadruped, through the long-armed ape, up into the tailless biped. Mr. Huxley can find no such ancestors, however proud he might be of the discovery. However plausible such a view may seem in theory, there is no proof of it. The silence of history, the silence of the rocks, the express language of revelation, is all against it. Some few remains that have a semi-human look have been lately found, it is said, in certain places, but they are not of this species homo, whose head and branches, whose dispersion and early pioneering are given in the wonderful tenth of Genesis. None of these have ever been so lost to history that their course could not be traced. We know something of all Noah's family. Japhet was the chief wanderer. The two main streams, of the sons of Gomer, that took their long way through middle Europe and middle Asia, are each to be recognized in races still roving the earth. Revelation shines upon their beginning, and ethnology has ever kept them to some extent in view. The other branch, the sons of Javan, that took the way of the Mediterranean and of the "isles of the sea," present a line of historical light reaching up to the point of connection with the scriptures. Among the sons of Noah, Shem was the most religious, and his descendants have, for the most part, remained in

or near the ancient home-land, preserving the primeval monotheism as it lay between the eastern pantheism and the western polytheism, witnessing, more or less, in all its branches, to the very ancient promise that He (not Japhet, as some interpret, but) He, the Shekinah, God himself, should dwell in the tents of Shem. Whilst Japhet was roving in the northern forests, and Shem was leading a simple, pious nomadic life, Ham, the most enterprising and intellectual of the Patriarch's sons, went down to Egypt, whilst another branch of the Hamites, under the mighty Nimrod, took a southeastern direction, and laid the foundation of the Babylonian and Assyrian empires. In both branches they were the pioneers of civilization. There was in both the city-building, empire-founding tendency. How soon rose up the great monarchy of Egypt, with its pyramids, its agriculture, its canals, its temples, its orders of society, its mystic philosophy; whilst similar phenomena were presenting themselves in those monuments of human vigor that Layard's and Rawlinson's excavations have revealed to the wonder of the modern world. These are the men with whom history opens. It bursts upon us, as we have said. The primeval man shows splendidly in the very beginning of his career. He was not a savage, according to the miserable Huxlean theory, so readily assumed by the unthinking. The poor dregs of humanity to which we now give that name are not man slowly rising, but man long falling. They are but the embers of a dying light. Such was not man primeval. He was not scientific, but he was no savage. He had much to learn, but he learned very rapidly. He possessed great vigor, both of body and mind, keen senses, great skill of hand, and a mighty ambition to do great things. These primeval men, or the men who stand at the head of history, and with whom history opens, were the Babel tower-builders, the pyramid-builders, the Cyclopean wall-builders, the great city-builders, the empire-founders. Rude certainly they were, in some aspects of their early beliefs, for they thought that they could build towers that would reach to the heavens above, and by this means escape the floods. But in this they only attempted, with all their early vigor of soul and body, to carry out the germ of that idea which, in some form, has ever possessed the world, and belonged to all civilization—the idea of becoming independent of heaven or of any power above nature. This primeval man, we say, was a splendid being; he aimed at great

things; he did great things. It was, indeed, mainly the greatness of magnitude, the greatness of Titanic strength and labor, but it was greatness still, and had its own true sublimity.

When we thus regard this primitive man as the Bible presents him, and as opening history finds him, the problem is solved that so perplexes certain commentators and historians, namely, the appearance of the great Egyptian monarchy so soon after the flood. On one theory all is clear: Man a short time upon the earth, but great in his beginning, strong in his primeval growth, instigated by a vast ambition, and, therefore, doing much and doing it rapidly—performing, in the course of a few hundred years, or a few generations, what at other times it takes ages to accomplish, if we may not rather say, ages to destroy. There are phenomena in geology that can only be accounted for on the ground of movements vastly more rapid at some times than at others. The individual man sometimes does more, he lives more, in a month or even a day, than at other times in years. And so is it with races. So was it with that wondrous race that first peopled the earth.

The other theory cannot solve the problem. Bunsen would give the Egyptian monarchy a duration of twenty thousand years. We want no learning to refute this. It contradicts common sense as well as the Bible. More than all is there opposed to it that awful silence,—that speaking silence,—of history, to which we have referred. What were they doing all this time? Just think of it. An Egyptian monarchy running up for twenty thousand years in the waste of time, like one of its own spindling obelisks standing in the desert, or like its own strangely shaped territory, many hundred leagues in length, and only a few miles in breadth. We are asked to believe this: Twenty thousand years—king succeeding king, dynasty marching after dynasty in unbroken series, so very unlike anything that history has since given us! What supernatural in the Bible to be compared with it for incredibility! Twenty thousand years of civilization in Egypt and all the rest of the world a blank historical waste! In Greece, Italy, Asia Minor, no history, no civilization, no monuments, no languages of which a trace has been left, no people, or, if there were beings in some rude form of men, undistinguishable, in other respects, from the wild beasts with whom they roamed the earth! Egypt so developed, Greece as forlorn as Nova Zembla, or as savage as

the Esquimaux! Egypt a land of light, of government, of civilization, yet sending none of its beams into these near regions of night, or, if it did so, the darkness comprehending it not! What a comment on the doctrine of progress, or how utterly unaccountable that one people should have so vastly got the start, and kept the start, of all others. It can not be. If there were any truth in such an antiquity of the Egyptian monarchy, especially in connection with such a doctrine of innate progress, the Roman empire should have been long before the days of Abraham, and our nineteenth century have preceded the Trojan war.

Man, we repeat it, has been comparatively but a short time upon the earth. He is not a great deal older than the pyramids. He was not a savage. He had strong associative tendencies. It was this passion for merging the individual in the great heroic movements of city and empire building that required the interposition of Heaven to break it up, and drive him, by a supernaturally caused division, over the face of the earth; the harmony of Scripture here, and of the beginnings of profane history, is perfect. The evidence of a few bones lately found accidentally mingled with those of wolves and hyenas, avails but little against the mighty evidence, both positive and negative, that comes from other sources. Whatever class of creatures these pre-adamite bones may represent, they belonged not to the race which history and the Bible reveal. The proofs of their antiquity have been greatly over-rated, or they have nothing to do with our species homo, the Adamic and Noachian man who starts so splendidly, and of whom in all his branches, history has never wholly lost sight. Splendid we have called him, in his physical and spiritual powers, but at the same time splendidly wicked, early fallen, and involved in a depravity that has ever made a godless civilization the forerunner of his downfall and degeneracy, except as brought up again, from time to time, by the light and spiritual power contained in a supernatural, and supernaturally preserved, revelation.

"We are but of yesterday." To know this, and the grounds on which the assertion is made, is an important element in education, because it is so connected with other anthropological views, and must so affect our thinking upon them. It presents what may be called a pivot question. Scriptural interpretation itself is affected by it. The chronology in our Hebrew Bibles is shorter than that

of the Septuagint by more than a thousand years. On this account the Greek has been preferred even by some of the more pious believers. Judged, however, by the view we have taken, this brief Hebrew reckoning is in fact a strong argument for the truth and inspiration of the Hebrew Scriptures. All other nations have had a passion for giving to their history the most extreme antiquity; Hindoos, Chaldeans, Persians and Chinese run up their empty chronology to hundreds of thousands of years, and infidel credulity has sometimes affected to give it some kind of credence. To be sure, it is but bare numbers; there is no filling up the numerical columns, and this is the very evidence of its falsity, but it shows the strong tendency of men to run themselves up, if they can, into the exceedingly remote past. Now there is one ancient people that have, in some strange way, been kept from all this, although, as men, they must have had the feeling referred to as strong as others. What a temptation this people had to make themselves very old! But the Jews, whose actually *filled up* records run back the farthest of any, have in fact the briefest and most modest chronology of any people in the world. Nothing but a divine guardianship could have controlled them here. God was specially in the Jewish history, fulfilling his promise to dwell in the tents of Shem, and this has over-ruled in them the propensity elsewhere so universal to this kind of national extravagance. That modest Jewish chronology! What a striking difference does it present to all those national mythologies with which rationalists, so called, are fond of comparing it! The Bible is not like other books—the Bible is inspired, and the fact mentioned may be reckoned as one of its strongest evidences.

It has been said that the Bible gives us the clew to these difficult anthropological questions; but whether we receive it as absolute truth or not, no one can deny its mighty bearing upon their solution. Shall a man, young or old, who is ignorant of these ancient documents, who knows nothing of their true interpretation, and of their historical bearing, be called educated? Shall that have the name of liberal education which makes no provision for knowledge so important, or that gives not our youth the means of testing, at least, the flippant assertions, or the insolently ignoring views of a contrary kind that are now being taken for granted on not a tithe of its evidence. There can be but one

answer to this question, it would seem, whether we regard it in its religious or its intellectual aspect.

No doubt the most of those who hear me would give their assent to the general proposition advocated, and therefore, in calling attention to its importance, illustration has been used rather than argument. Such a course may have given to these remarks too much the form of a lecture, but my audience will see the reason of it, and, it is hoped, will pardon its length. No plan has been proposed. The object was simply to call the attention of this most responsible body to what was deemed a most important matter. One thing, however, may be said, that whatever may be the case in our academies and primary schools, in our colleges, at least, the kind of *useful* knowledge here insisted upon should have its lectures and its professorship.

SCHEME OF BIBLICAL INSTRUCTION.

At the request of the Convocation, the following is proposed as a general method for carrying out the leading idea presented in the paper entitled "A knowledge of the Scriptures an indispensable element of liberal education:"

GENERAL PROPOSITION.

In the senior year of a college course, the Bible, and the great literary and historical questions connected with it, ought to be made a special and favored portion in the scheme of instruction.

Content with thus stating the general position, and not wishing to dictate to others, I would merely present here the outline of a course of lectures which I have endeavored to fill up in my own department. Others may not regard it as presenting the best method; but the object is attained if, in any way, it aids this association in discussing the general question of Biblical education, not in our theological seminaries merely, but in our colleges.

It will be seen that throughout the design is to present the Scriptures in their literary, historical and philosophical aspects, as a branch of necessary mental culture and most useful knowledge. Homer bore something of the same relation to the Greeks that the Scriptures bear to us. As the great book that, more than

any other, formed the Greek nationality and the Greek mind, it might be called (without any violation of reverence) the Greek Bible. If Homer should have a place in our colleges, then *a fortiori atque a fortissimo*, should the Christian Scriptures have, to say the least, an equal position of honor.

SYNOPSIS OF LECTURES.

LECTURE I.—The Bible as a *fact* and a *power*—literary, philosophical and historical, lying in the heart of the world-movement.

LECTURE II.—The Bible in its claim to be a revelation of the divine and supernatural in the world.

Three senses of the word Revelation:

1. God as revealed in the *ordinary* natural.
2. God as revealed in the *ordinary* historical.
3. God as revealed in a series of *extraordinary* movements taking place both in nature and in history.

The third the more special sense in which the word is used.

LECTURE III.—The first two kinds of Revelation sufficient, were it not for an idea acknowledged in all the mythologies and religions of the world, namely, that of a fall or disorder in the original human nature, which weakens or destroys their revealing power for the human mind, and renders necessary the third. This idea of a fall treated, not as a religious dogma, but as an asserted *fact*, with its proof in the history of the thinking and action of mankind in all ages.

LECTURE IV.—Three important ideas, as conveyed by three important words: *Revelation, the Scriptures, Inspiration*. Each presenting different aspects, often confounded, but requiring to be carefully distinguished.

1. *Revelation*—the special acting of God in humanity, or the actual series of supernatural or extraordinary interventions in the world, as affecting both its natural and spiritual departments.
2. *The Scriptures*, not the revelation strictly, but the alleged *record* of that revelation, made in human *language*, and according to human *conceptions* as necessarily underlying all human language.
3. *Inspiration*, or the questions and arguments that have respect to the *manner* in which that record was made, or as

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directed, guarded and preserved, by a higher power than the human.

LECTURE V.—Distinction between the *natural* and the *supernatural*—between the *ordinary* and the *miraculous*. The possibility of the supernatural. The absurdity of its denial. Man himself a supernatural being, and his higher wants and higher faculties regarded as demanding supernatural communications.

LECTURE VI.—*Credibility*, as judged by the *sense* and by the *reason*.

LECTURE VII.—The supernatural in its two departments:

1. Deflections from the ordinary natural, or what is commonly called the *miraculous*.

2. Deflections from the ordinary spiritual, or the *extraordinary* and otherwise unaccountable in the movements of the human mind and history.

The first species of the supernatural predominant in the physical creation and in the early ages; the second still continuing. This second kind, or the spiritual, no less supernatural, but having less strangeness for the sense, and, therefore, falsely regarded as less extraordinary or miraculous.

LECTURE VIII.—The documentary history of the Bible. The authorship, dates and authenticity of its several parts.

LECTURES IX & X.—Same subject continued.

LECTURE XI.—The chronology of the Bible.

LECTURE XII.—The general prophetic aspect of the Bible, or the general ideas it gives us of the destiny of man and of the earth.

LECTURE XIII.—The bearing of the Scriptures on the question of the human origin.

LECTURE XIV.—The Messianic idea of the Old Testament.

LECTURE XV.—The general plan of the Scriptures as presented in two leading historical methods.

1. The selection of one nation out of other nations to be specially guarded and preserved as the depository of supernatural truth, and for the preservation of the revelation records. This one nation chosen, not for itself, but for the world, as a world-people and the world's representative.

2. The constituting, not of one nation, but of one spiritual people out of all nations, or the Christian Church as a *visible*

and *invisible* power in the earth. In this church the higher or the spiritual supernatural claimed as still continuing.

LECTURE XVI to XX.—The Bible in history.

1. The Bible a *converging* power in history, or that towards which all history before the coming of Christ was focally tending.

2. The *diverging* power in history, as seen in its effect, since that time, upon the historical movements of the world, and the course of the world's thinking.

LECTURE XXI.—The languages of the Bible. Peculiar nature of the Hebrew language, and its adaptedness to the earlier revelation.

LECTURE XXII.—The Shemitic languages in general, and the place of the Hebrew among them.

LECTURE XXIII.—The Greek language as the language of the New Testament. Its superior adaptedness to the new ideas of which it was to be the medium.

LECTURE XXIV.—The new ideas of the Christian revelation. These treated not as religious dogmas, but in their historical aspect, as things unknown to, and, therefore, incapable of being developed out of any previous philosophy or thinking in the world.

LECTURE XXV.—History of the New Testament Greek. The differences between it and the classical, and the historical changes through which it received its Biblical form.

LECTURE XXVI.—Question as to the vernacular language or languages of Palestine in our Savior's time, and in respect to the language which he himself spoke.

LECTURE XXVII to XXX.—History of the New Testament writings, especially of the Evangelists. How far at first oral or traditional. Their authenticity or subjective truthfulness. Their dates, authorship, &c.

LECTURE XXXI.—Questions that have been lately raised about the *ideal* and the *actual* in Christianity, and in the sacred books, and whether there is any ground for such distinction.

LECTURE XXXII.—The rapid influence of the Scriptures when sent forth from the exclusive keeping of the Jews. How soon they revolutionized the thinking of the world, and the course of events.

LECTURE XXXIV.—The Scriptures a continued miracle in the world.

LECTURE XXXV.—*The Bible in Literature.* From it the first beginning of a world literature, or of a common stock of ideas in which all men, as men, have an intellectual and a moral interest. The beginning of this in the demand for versions of the Scriptures, such as had not been made for any other literature.

LECTURE XXXVI–XXXIX.—History of Bible versions. Oldest versions:

1. The Septuagint.
2. The Syriac.
3. The Latin in its two forms:
The Old Italian.
The Vulgate.

Later versions:

- The Coptic.
- The Armenian.
- The Gothic, Slavonic, later Arabic, &c.

Versions of Versions.—How these eventually checked each other, and tended to preserve the letter of the Scriptures.

LECTURE XL.—*Preservation of the Scriptural Text.*—The great care of the Jews—the Jewish Masora. No evidence for the genuineness and textual purity of any ancient classic to be compared with that which, from these various sources, exists for the Scriptures.

LECTURE XLI.—*The Bible a World-Book.*—Though oriental in form, adapted to the whole world in its spirit. Most idiomatic, yet most translatable. Most ancient, yet most in harmony with the best modern thinking. Most profound in the ideas it presents to the profoundest minds, yet adapted to the youngest and most uncultivated intellects.

LECTURE XLII.—Difference between the Christian Scriptures, and all other books called sacred. The Bible and the Zendaavesta; the Bible and the Hindoo books; the Bible and the Koran; the presentation of these differences most important because of the effort, at the present day, to confound the Bible with the books of other nations and religions.

LECTURE XLIII.—Immense difference between the Bible and these other books, in the manner of construction and authorship. The latter the product of one mind or of one age—the Bible car

ried on through ages, parallel with the history of the world for more than two thousand years. These other books mainly dogmatic; the Bible historical, and the dogmatic inferential and incidental. These other books have a great sameness; the Bible a book of vast variety. They are evidently for sectional and national purposes, having nothing humanitarian about them. The Bible for all nations.

LECTURE XLIV.—Difference between the supernatural of the Bible and that of other books called sacred, or of all heathen mythologies.

LECTURE XLV.—Difference between the early narrations of the scriptures and the legends and mythologies of other nations with which they are compared—Statistical and chronological character of the scriptures.

LECTURE XLVI.—Connection between biblical and classical study—Comparison of the Bible writers with the ancient orators and poets—David, Isaiah, Homer, Pindar, &c.—The great difference of thought and language, showing that there was an unearthly power in the seemingly less-cultivated nation. Homeric doctrine of a future life, and the fanciful Greek Hades, as compared with the solemn reserve of the Old Testament, and the sublime revelation of the New.

LECTURE XLVII.—Great anthropological questions, such as those of the origin and unity of the human race, and the character of the primitive men. The Bible, regarded merely as an historical document, an indispensable help to their solution.

LECTURE XLVIII.—Periods of interest in the scriptures and the religious interest thence arising, ever accompanied and followed by a corresponding quickening in all other intellectual departments. This illustrated by the early extension of christianity in the Roman empire—the new christian literature that followed the Protestant Reformation. The bringing out the scriptures as a popular influence and the revival of literature and philosophy by which it was immediately attended. Other periods of a similar kind in history.

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REQUIREMENTS FOR ADMISSION TO COLLEGE. Compiled by D. J. PRATT, A. M., Assistant Secretary of the Board of Regents.

AGE AND ENGLISH BRANCHES.						
COLLEGES.	AGE.	ARITHMETIC.	ENGLISH GRAMMAR.	MODERN GEOGRAPHY.	ANCIENT GEOG.	HISTORY.
Columbia College,.....	16 years	* †	* †	* †	* †	.....
Union College,.....	14 years	Davies', University †	Thorough preparation	.....	.....	United States
Hamilton College,.....	.....	* †	* †	* †	* †	.....
Hobart College,.....	.....	* †	* †	* †	.....	.....
University of City of N. Y.,	14 years	Higher Arithmetic †	Syntax, comp. study of classical authors, &c.	.....	.....	United States
Madison University,.....	.....	* †	.....	* †	.....	U. S. and Ancient
St. John's College,.....	.....	.....	.....	.....	.....	.....
Genesee College,.....	14 years	* †	* †	* †	.....	Willson's Outlines
University of Rochester,...	.....	.....	Greene's Analysis, Parsing.	* †	Classical & biblical	.....
Elmira Female College,....	.....	Robinson's Higher †	.....	* †	.....	American
St. Lawrence University,...	.....	* †	* †	.....	.....	United States
College of St. Francis Xavier	.....	* †	* †	* †	.....	* †
Vassar Female College,...	15 years	* †	* †	* †	.....	Elementary
Manhattan College,.....	.....	Mental and Practical	* †	* †	.....	* †
St. Stephen's College,....	15 years	.....	.....	.....	.....	.....
Harvard College,.....	.....	Chase's Com. School	.....	Mitchell's †	Mitchell's †	Smith's Greece, Worcester's Rome
Amherst College,.....	14 years	* †	* †	.....	* †	.....
Williams' College,.....	14 years	* †	Including Prosody	* †	.....	.....
Yale College,.....	.....	Thomson's Higher †	* †	* †	.....	.....
Oberlin College,.....	14 years	* †	Analysis †	.....	.....	Weber's
University of Michigan,....	14 years	* †	Entire	General theory, Eu- rope, U. S.	* †	.....

* Examination required. † Amount not specifically stated.

TABLE—(CONTINUED.)

COLLEGES.	LATIN ELEMENTS.				
	Grammar.	Reader.	Prosody.	Prose Composition.	Roman Antiquities.
Columbia College,.....	* †	.....	* .....	.....	.....
Union College,.....	* †	.....	* † .....	Arnold, 12 chapters	.....
Hamilton College,.....	.....	.....	* † .....	Arnold, 12 chapters	* †
Hobart College,.....	* †	.....	* † .....	.....	.....
University of City of N. Y.,	.....	.....	.....	.....	.....
Madison University,.....	* †	.....	.....	.....	.....
S. John's College,.....	Elements, syntax, idioms	Phædrus' Tables	* †	Richards, †	Baird, †
Genesee College,.....	.....	* † .....	.....	* † .....	.....
University of Rochester,.....	* †	.....	.....	Arnold, 12 chapters	.....
Elmira Female College,.....	* †	.....	.....	* † .....	.....
St. Lawrence University,.....	* .....	.....	.....	.....	.....
College of St. Francis Xavier,	.....	.....	.....	.....	.....
Vassar Female College,...	Andrews, with Syntax	Eclogæ Casarinæ	.....	.....	.....
Manhattan College,.....	* †	Exercises	.....	.....	.....
St. Stephen's College,.....	* †	* † .....	.....	.....	.....
Harvard College,.....	Andrews and Stoddard	.....	Andrews & Stoddard	* † .....	.....
Amherst College,.....	* †	.....	* † .....	Arnold, 10 chapters	.....
Williams' College,.....	* †	.....	* † .....	Arnold, 12 chapters	.....
Yale College,.....	Andrews and Stoddard, Zumpt or Harkness	.....	* † .....	Arnold, 12 chapters	.....
Oberlin College,.....	Harkness	* † .....	.....	* † .....	.....
University of Michigan,.....	* †	.....	* † .....	Arnold, 44 exercises	.....

* Examination required. † Amount not specifically stated.

TABLE—(CONTINUED.)

COLLEGES.	GREEK ELEMENTS.					
	Grammar.	Reader.	Prosody.	Composition Exercises	Writing.	Antiquities.
Columbia College,.....	• †	Jacobs' selections from Lucian and Plutarch • † (or Anabasis)	.....	.....	.....	.....
Union College,.....	Crosby or Hadley, †	.....	.....	.....	.....	.....
Hamilton College,.....	.....	.....	.....	.....	.....	.....
Hobart College,.....	Hadley's Etymology	.....	.....	.....	.....	.....
University of City of N. Y.,	.....	.....	.....	.....	.....	.....
Madison University,.....	Harkness, †	Harkness, †	.....	Harkness, †	.....	Baird, †
St. John's College,.....	Elements and Idioms	Æsop's Fables, Lucian's Dialogues	.....	.....	.....	.....
Genesee College,.....	Hadley, †	.....	.....	.....	.....	.....
University of Rochester,.....	.....	.....	.....	.....	.....	.....
Emira Female College,.....	.....	.....	.....	.....	.....	.....
St. Lawrence University,.....	.....	.....	.....	.....	.....	.....
College of St. Francis Xavier	.....	.....	.....	.....	.....	.....
Vassar Female College, †	Entire †	Knapp, Part V †	.....	.....	.....	.....
Manhattan College,.....	.....	Jacobs, †	.....	.....	.....	.....
St. Stephen's College,.....	Sophocles, †	Anthon, †	.....	.....	.....	.....
Harvard College,.....	Sophocles, Crosby, or Had- ley, with Prosody	Felton, †	With versification	.....	With accents	.....
Amherst College,.....	.....	.....	.....	.....	.....	.....
Williams College,.....	.....	Jacobs, Colton, or Fel- ton, † (or Anabasis)	.....	.....	.....	.....
Yale College,.....	Hadley, &c., †	Jacobs, Colton or Felton, †	.....	.....	.....	.....
Oberlin College,.....	Crosby, †	Crosby. †	.....	Crosby, †	.....	.....
University of Michigan,.....	.....	.....	.....	Arnold, entire	.....	.....

* Examination required.

† Amount not specifically stated.

‡ French instead of Greek.

TABLE—(CONTINUED.)

COLLEGES.	LATIN CLASSICS.					
	De viris illustribus urbis Romæ.	Cæsar's Commentaries.	Sallust.	Virgil.	Cicero.	Ovid.
Columbia College,.....	• †	• †	.....	Æneid, 6 books,	6 orations,	.....
Union College,.....	.....	4 books,	{ Catiline and	Æneid, 6 books,	6 orations,	.....
Hamilton College,.....	.....	4 books,	{ Jugurthine War or †	Æneid, 6 books,	6 orations,	.....
Hobart College,.....	.....	6 books, or	{ Catiline and	Æneid, 6 books,	• †	.....
University of City of New York,	.....	6 books,	{ Jugurthine War or †	Æneid, 8 books,	6 orations,	.....
Madison University,.....	.....	• †	• †	• †	• †	.....
St. John's College,.....	(C.Nepos.) • †	• †	.....	Bucolics,	Select letters and treatises,	• †
Genesee College,.....	.....	4 books,	Catiline,	Æneid, 6 books,	• †	.....
University of Rochester,.....	(C.Nepos.) • † or †	4 books,	.....	Æneid, 6 books,	• †	.....
Elmira Female College,.....	.....	• †	.....	Æneid, 6 books,	• †	.....
St. Lawrence University,.....	.....	• †	.....	Æneid, 6 books,	• †	.....
College of St. Francis Xavier,	.....	.....	.....	Æneid, 6 books,	• †	.....
Vassar Female College,.....	.....	2 books	.....	.....	2 orations	.....
Manhattan College,.....	• †	• †	.....	.....	.....	• †
St. Stephen's College,.....	(C.Nepos.) • † or †	• †	• †	Æneid, 6 books,	.....	.....
Harvard College,.....	.....	Whole,	.....	Whole,	Select orations, †	.....
Amherst College,.....	.....	• †, or	• †	Æneid, 6 books,	Select orations, †	.....
Williams College,.....	.....	• † or	• †	Æneid, 6 books,	Select orations, †	.....
Yale College,.....	.....	.....	Catiline and Jugurtha,	Bucolics, Georgics,	7 orations,	.....
Oberlin College,.....	.....	• †	.....	• †	Select orations, †	.....
University of Michigan,.....	.....	• †	.....	Æneid, 6 books,	Select orations, †	.....

† Amount not specifically stated.

• Examination required.

† See same line, next column.

TABLE—(CONTINUED.)

COLLEGES.		GREEK CLASSICS:			MATHEMATICS.	
	Xenophon.	Homer.	New Testament.	Algebra.	Geometry.	
Columbia College,	Anabasis, 2 books.	Iliad, 2 books		Through Simple Eq.,		
Union College,	Anabasis, 3 books, (or Reader),	Iliad, 1 book,		Through Simple Eq.,		
Hamilton College,	Anabasis, 3 books,	Iliad, 1 book,		To Eq., of second degree,	Plane.	
Hobart College,	Anabasis, 1 book, (or Reader),			Through Quadratics,		
University of City of New York,	Anabasis, 3 books,	Iliad, 2 books,		Through Simple Eq., †		
Madison University,	Anabasis, †					
St. John's College,	Anabasis, 3 books,	Iliad, 1 book,		Through Quadratics,		
Gencee College,	Anabasis, 3 books,			To Quadratics,		
University of Rochester,						
Elmira Female College,						
St. Lawrence University,	Anabasis, †	Iliad, 1 book,				
College of St. Francis Xavier,				To Quadratics, Elementary.	Elementary.	
Vassar Female College,				To Quadratics,	Hill's Second Book, Part I, II.	
Manhattan College,			St. Matthew's Gospel, †	Sherwin, to § 38,	Loomis or Euclid, 2 books.	
St. Stephen's College,	Anabasis, entire (or Reader),	Iliad, 2½ books,		To Quadratics, Through Simple Eq.,	Euclid, 2 books.	
Harvard College,	Anabasis, †	Iliad, 2 books, Iliad, or Odyssey, 1 book,		Day, to Quadratics,		
Amherst College,	Anabasis, †					
Williams College,	Anabasis, 2 books, (or Reader),			To Ratio, Through Quadratics,	Legendre, 1, 2, 4 books.	
Yale College,	Anabasis, 3 books,		Gospels,			
Oberlin College,	Anabasis, 3 books,					
University of Michigan,	Anabasis, 3 books,					

• Examination required.

† Amount not specifically stated.







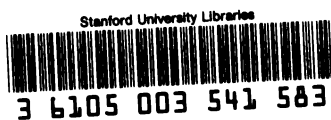
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